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ABSTRACT

To assess the feasibility of large-scale, countercyclical public job creation, a study was initiated. Job creation program activities were examined in terms of how many activities could be undertaken; what would be their costs; and what would be their characteristics (labor-intensity, skill-mix, and political acceptability) that might contribute to cost benefit analysis. Onsite and offsite job-creation was considered. The potential inflationary pressure that could be generated was also considered. Finally, administrative and organizational issues that might pose significant implementation barriers were reviewed. Information was gathered through field visits and correspondence with national organization representatives in Washington and representatives from twenty-four local communities. Some major findings and conclusions are (1) the study identified 233 potential job-creation activities in twenty-one program areas. The largest number of activities were in public works, environmental quality, education, social services, and criminal justice; (2) inferences about average costs and targeting effectiveness should not be drawn from onsite job-creation and cost data alone; (3) worker selection targeting restrictions and eligibility criteria ought to be flexible; and (4) selected priorities areas include housing, health, and criminal justice. Inadequate planning time and training resources were singled out, among seven potential barriers, as amenable to policy actions to minimize the difficulties they produce. (CSS)

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Assessing Large-Scale Public Job Creation

R&D Monograph 67

U.S. Department of Labor
Ray Marshall, Secretary

Employment and Training Administration
Ernest G. Green,
Assistant Secretary for Employment and Training

1979

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FOREWORD

Recent developments in employment and training and related activity areas have placed increased emphasis on public service jobs. As part of the economic stimulus package, the Carter Administration increased the number of public service jobs funded under CETA from 300,000 to 725,000 and provided an additional $4 billion to create jobs under the Local Public Works program. Current Congressional deliberations on the reauthorization of CETA include issues regarding further expansion of the program. In addition, as part of its welfare reform proposal, the Program for Better Jobs and Income, the Carter Administration has recommended the creation of 1.4 million low-wage jobs for eligible low-income families. Job creation has also been an issue in the pending Humphrey-Hawkins program. An important issue in assessing the feasibility of these programs is: Are there enough meaningful jobs to employ all of the people to be served by these programs? The study discussed in this monograph was undertaken to shed some light on this issue.

The major objective of this study was to identify useful public work activities and analyze their feasibility and potential for large-scale expansion to provide jobs for large numbers of unemployed persons. To obtain information and data for this study, the researchers drew heavily upon public service employment program experience under the Emergency Act and CETA. They conducted an extensive search of the literature and, through correspondence and meetings, elicited the ideas and opinions of Government (Federal, State, and local) officials, representatives of national organizations, labor unions, private employers, and other knowledgeable individuals. The information obtained, methodology used in analyzing the data, findings, conclusions, and recommendations are presented in this monograph. In addition, a series of papers which present the more technical details of this study have been developed. These papers will be available through the National Technical Information Service, as well as the Urban Institute.

In addition, to identifying 233 meaningful job-creation activities in 21 program areas, this study presents information on the skill-mix, labor intensity, and job-creation potential of these activites and associated costs. Other topics discussed and analyzed include establishing priorities among activity areas, the supply of skills available for newly created public jobs, potential skill imbalances, and administrative and operational issues that serve as barriers to the expansion of public service jobs programs. Findings and conclusions are discussed in terms of their policy implications and recommendations for possible structural and countercyclical large-scale public job creation programs.

It should be noted that the specific figures cited in this monograph are to be treated as estimates.

HOWARD ROSEN
Director
Office of Research
and Development

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PREFACE

The work described in this report, undertaken under the terms of Contract Number 20-11-77-18, was a joint research effort by The Urban Institute and the American Institutes for Research. Although the primary responsibility for preparing this report fell, under the contractual terms, to The Urban Institute, the contribution of American Institutes for Research staff was important enough to merit joint-authorship.

More specifically, Herbert Rubenstein of the American Institutes for Research was responsible for the work summarized in Chapters II and VII; Harold Sheppard of the American Institutes for Research supervised the work of Rubenstein and had primary responsibility for the work summarized in Chapter III; Melvin Jones of The Urban Institute was responsible for the work in Chapter IV; Charles O. Thorpe, Jr. of The Urban Institute was responsible for the work in Chapter V; and Chapter VI was prepared by Alan Fechter of The Urban Institute. As Project Manager, Fechter also was responsible for the overall coordination of the effort and for the quality of the final report.

There are eight chapters in the report. Chapter I presents an overview and summary of the entire report. Chapter II is a long chapter which describes methods and detailed findings with respect to activities, their job-creation potential and related characteristics. Chapters III through VII describe our findings with respect to priorities among projects, indirect employment effects, skill imbalances, administrative and operational issues, and a concluding chapter, Chapter VIII, summarizes overall findings, conclusions, and recommendations.

In addition to this report, the following series of papers have been developed as part of this project and could be made available to those who are interested in the more technical details of this study:

> Melvin Jones, "Direct and Indirect Employment Effects of Public Employment Programs: An Application of Input-Output Models to Assess Employment Effects by Skill," Working Paper 3619-3, Washington, D.C., The Urban Institute, 1978;
>
> Herbert Rubenstein, "Administrative and Operational Barriers to Public Job Creation: Evidence Based on Field Visits," Working Paper 3619-5, Washington, D.C., The Urban Institute, 1978b; and
>
> Charles O. Thorpe, Jr., "Target Groups to be Served by Public Job Creation Programs: Their Characteristics and Their Cyclical Sensitivity," Working Paper 3619-4, Washington, D.C., The Urban Institute, 1978.

These papers will be available through the National Technical Information Services as well as The Urban Institute. A large number of people have been instrumental in making this study possible. It is difficult to begin to acknowledge our indebtedness to the large number of public officials, employees, and representatives in the hundreds of public and private organizations and agencies we visited who cooperated with us and provided us with the information that was used in this study. Our failure to do so should in no way be construed as minimizing their valuable contributions; rather, it should be construed as our deference to pragmatic and logistic reasons in trying to keep the Preface within manageable proportion.

Particular debts of gratitude are due to Albert Mapou and Thomas Bruening of the Department of Labor, Employment and Training Administration, Office of Policy Evaluation and Research, for their continual guidance and support throughout the project and for their helpful comments on what must have seemed an endless flow of chapter revisions in the process of completing this report. The authors are also grateful for the constructive comments on early draft material in this report by William Barnes, National Commission for Manpower Policy; Lee Bawden and Robert Harris of The Urban Institute; Howard Rosen, Office of Policy Evaluation and Research, and John Palmer, Brookings Institution. Assistance in the field efforts was provided by Tania Romashko, Larry Passarell, and Andrea Chasen, American Institutes for Research. Earl Wright, Upjohn Institute for Employment Research, provided useful advice on how to structure our field visits. Research assistance and copy editing were provided by Alice Wade, Urban Institute. Computer assistance was provided by Tito de la Garza and Roger Kohn, Urban Institute. Robert Haveman and Irwin Garfinkel, Institute for Research on Poverty, University of Wisconsin, were helpful in arranging for the use of the Golladay-Haveman simulation model. Michael Watts, Institute for Research on Poverty, worked closely with Melvin Jones in modifying the simulation model to suit our requirements and in producing outputs from this model. George Chow, Urban Institute, worked with Charles Thorpe in generating the estimates of target group populations in Chapter V. Penny Rosenwasser, Urban Institute, assisted in the preparation of the reference section.

Last, but by no means least, a special acknowledgment is due to Yuri Mayadas who typed the many drafts of each chapter of this report as we attempted to give a multiple-author product the appearance of consistency. It is fair to say that this report would not have been possible without her. Her tireless, patient, and conscientious efforts were truly above and beyond the call of duty.

EXECUTIVE SUMMARY

The purpose of this study was to assess the feasibility of large-scale, countercyclical public job-creation. A major concern was with the assertion that a public job-creation program is limited in its potential capacity to expand by the amount of meaningful activity. The central issue examined was: How many activities could be undertaken?

An additional concern was with the characteristics of these activities. We wanted to estimate the number of jobs that could be created and the costs of these activities. This information was expected to be useful in further studies of the relative merits of public job-creation activity to determine whether such activity was indeed "better" and therefore desirable. We also examined other dimensions of the activities--their labor-intensity, their skill-mix, their degree of political acceptability, etc.--which might contribute to a more thorough analysis of the benefits and costs expected from these activities.

In estimating the job-creation potential of these activities, an attempt was made to be more comprehensive than past studies by considering both onsite and offsite job-creation. The latter is expected to arise from onsite purchases of nonlabor inputs and through second-round expenditures induced by the onsite labor and nonlabor purchases.

Consideration was also given to a particular aspect of indirect costs--the potential inflationary pressure that could be generated as a result of labor shortages that might emerge as a consequence of these activities. To assess these shortages, estimates of the aggregate number of jobs created and the distribution of these jobs by skill (major occupation group) were compared with estimates of the aggregate supply of labor available to fill these jobs and the distribution of this supply by comparable skills.

Finally, general administrative and organizational issues that might pose significant barriers to implementation of these activities were reviewed and attempts were made to link some of these to particular types of activity.

Information was gathered by means of field visits in Washington--with numerous federal government officials and representatives of over 50 national organizations, ranging from Goodwill Industries to the National Education Association--and in 24 counties located in eight of the ten federal regions.

In addition, correspondence was conducted and/or meetings were held with federal government officials and representatives from a large number of national organizations.

The meetings, both in Washington and in the local communities, focused on (1) identifying activities that might provide meaningful work, (2) determining priorities among these activities, and (3) identifying current or expected problems in (a) implementing PSE projects, (b) running the projects, and (c) phasing out the projects.

Data were also collected during these visits on the costs, labor intensity, skill-mix, and job-creation potential of the public service and public works activities identified as likely candidates for large-scale expansion. Secondary sources, such as PSE project data summaries, various government reports, program budgets, program planning documents, and evaluations, previous studies such as the National Manpower Survey of the Criminal Justice System, and a number of surveys conducted specifically for this research project by particular national organizations, also provided us with useful data.

Major findings are summarized below:

1. The study identified 233 potential job-creation activities in 21 different program areas. This list of activities, together with the summary of their characteristics contained in this study, should provide valuable guidance to prime sponsors and other program administrators charged with the responsibility for developing such activities. The largest number of activities were in the following program areas: public works (37), environmental quality (31), education (27), social services (27), and criminal justice (24).

Estimates of onsite jobs and costs could be generated for 115 activities. These 115 activities were estimated capable of generating 3 million onsite jobs at a budgetary cost of $46 billion, or slightly more than $15,000 per onsite job. These per-job costs ranged as low as $8,000 for cultural activities (including museums and public libraries) to as high as $41,000 for public works. A large number of additional onsite jobs could have been created by the 118 projects for which estimates could not be generated. These estimates of potential job-creation presented here should, therefore, be considered quite conservative on this account. However, while both the 115 and the 233 activities are technically feasible, they may not be the best way to allocate scarce government resources. The value of some of these activities may not be sufficient to justify their costs. And, for other activities, the costs of trying to satisfy the entire demand might prove to be prohibitive. The estimates presented in this study are likely to be biased upward, and should therefore be considered liberal estimates, on these accounts.

2. The estimated number of onsite and offsite jobs that could be generated varied according to the assumption adopted about fiscal substitution and whether the resources freed by such substitution are ultimately spent. The most reasonable assumption--that, regardless of whether or not there is any fiscal substitution, all the funds are eventually spent, yields an estimated 7.4 million jobs. The effect of these additional jobs is to lower the cost per jobs created from $15,000 (for onsite jobs) to approximately $6,000 for both onsite and offsite jobs.

Moreover, the characteristics of jobs created offsite would differ noticeably from jobs created onsite. For example, while low-skill jobs would constitute over 40 percent of the onsite jobs, they would represent only 15 percent of the offsite jobs. Thus, one effect of offsite job-creation would be to lower the percentage of jobs that could be filled by low-skill workers from over 40 percent to only 25 percent. The actual number of low-skill jobs capable of being generated increases from 1.2 million to over 1.8 million. A major conclusion to be drawn from this finding is that, because the offsite employment effects of these activities is substantial and because these jobs differ in characteristics from onsite jobs, inferences about the average costs and targeting effectiveness of job-creation programs should not be drawn from onsite job-creation and cost data alone.

3. It was found that the markets for white collar workers--both professional-managerial and clerical-sales--and service workers were most likely to experience bottlenecks even in a situation of rough aggregate balance. However, these skill-specific bottlenecks were not considered serious hindrances to the feasibility of implementation of these activities since they could easily be alleviated by drawing on additional supplies available from unemployed and underemployed white collar workers who were not members of the target group. A policy implication to be drawn from this finding is that targeting restrictions and eligibility criteria ought to be flexible enough to allow for some selection from outside the target groups or populations of eligibles specified for the program. Such flexibility will tend to minimize potential skill bottlenecks.

We found that labor-intensive, low-skill activities could serve as a reasonable basis for national job-creation in a structural program. Additional labor-intensive activities could be added to meet the needs of a countercyclical job-creation program as the occasion warranted.

4. The process developed to identify priority areas consisted of several steps. First, areas identified as areas of excess demand by at least 20 percent of officials and representatives were isolated. Then, from among those areas, the ones selected by at least 10 percent for increases with additional federal funding and the ones selected by a large number of officials and representatives for increases rather than for decreases were isolated. The areas that met all of these test were defined as priority areas.

The area of environmental quality met the test for all local area public officials and representatives contacted. The following areas met the test for all officials and representatives except elected public officials--housing, health, and criminal justice. These areas provide roughly one-sixth to one-fifth of the 3 million jobs created by the activities identified in this study.

5. Administrative and operational issues were examined on the basis of an extensive literature review and from information acquired during the course of our fieldwork. The following issues were identified as potential barriers to effective implementation of activities funded under a large-scale public job-creation program:

- ambiguous program goals,
- red tape,
- inadequate time for planning,
- targeting,

- inadequate resources for training, supervision, and materials,
- pressure group problems (e.g., unions, competition in private sector),
- transition requirements.

Each of these issues can render a project (or groups of projects) infeasible.

Two issues--inadequate time for planning and inadequate resources for training, etc.--were singled out as amenable to policy action that would minimize the difficulties they now produce. The former can be alleviated by more stable funding patterns. The latter can be alleviated by liberalizing the current requirement that no less than 85 percent of the funds be spent on the wage bill. While this liberalization may reduce the onsite job-creation performance of the program, it would increase the range of feasible activities and it may improve the long-range benefits accruing to program participants by providing them with better on-the-job training experience. These improvements may be purchased at the cost of more fiscal substitution, however, unless more effective constraints are imposed on how funds will be utilized and greater effort is made to assure that maintenance-of-efforts provisions are honored.

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I. OVERVIEW AND SUMMARY

Persistent and disturbingly high levels of unemployment experienced in recent years have convinced many that monetary and fiscal policy can no longer be relied on as the sole means of regulating our economic destinies. This type of thinking has its roots in a view of the economy that suggests that aggregate rates of unemployment cannot be reduced much below 6 percent by these measures without incurring intolerably high rates of inflation. Such a view, consistent with a structural theory of unemployment, permits the simultaneous existence of excess supplies of labor in some markets along with excess demands for labor in other markets. These sectoral imbalances suggest the need for targeted, structural interventions into labor markets--e.g., wage subsidies, antidiscrimination programs, investment incentives--as a more appropriate way of dealing with our existing unemployment problems than the traditional macroeconomic measures.

Among these, public sector job-creation has played an increasingly important role. Prior to 1971, such programs were practically non-existent; since that time they have steadily grown so that today the public service employment program authorized under the Comprehensive Employment and Training Act (CETA) alone funds over 750 thousand jobs.

The debate over whether or not to expand public job-creation programs has been centered in part on the issue of "make-work." Many have argued that it would not be desirable to further expand the scope of these types of programs because they would quickly run out of meaningful activities. Jobs created by these activities, they argue, would be "make-work" or "leaf-raking"--demeaning to those employed, contrary to the value placed on work by the advocates of such job-creation programs, and not really directed toward satisfying important social objectives.

Scope of Study

The purpose of this study was to assess the feasibility of large-scale, public job-creation. Feasibility, we caution, is not synonymous with desirability. The former addresses what could be done. The latter addresses what should be done and implies an activity that is, in some sense, superior to alternative activities: To be feasible, it is only necessary to show that meaningful public job-creation activities are technically possible. To be desirable, one must also show that such activities are regarded as "better" in some sense than others--where, for example, "better" can be defined in efficiency terms as creating more jobs of a given value at a given cost, or creating a given number of jobs of a given value at a lower cost.

This study is primarily interested in the issue of feasibility. Although it also develops information that could be relevant to the latter issue, no attempt is made to identify the relevant trade-offs between this type of program and alternative types of structured programs.

A major concern of this study was with the assertion that a public job-creation program is limited in its potential capacity to expand by the

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existing amount of meaningful public sector activity that could be undertaken. The central issue examined was: How many activities could be undertaken?

An additional concern was with the characteristics of these activities. We wanted to estimate the number of jobs that could be created and the costs of these activities. This information was expected to be useful in further studies of the relative merits of public job-creation activity to determine whether such activity was indeed "better" and therefore desirable. We also examined other dimensions of the activities--their labor-intensity, their skill-mix, their degree of political acceptability, etc.--which might contribute to a more thorough analysis of the benefits and costs expected from these activities.

In estimating the job-creation potential of these activities, an attempt was made to be more comprehensive than past studies. Critical factors considered in assessing the net job-creation potential of these activities include how they are to be funded, whether or not there is any fiscal substitution or occupational displacement, and the extent to which there is some indirect, or offsite, job-creation effects.

Public job-creation activities could conceivably result in no new net job-creation if funded by reductions in expenditures on other public activities or by increases in taxes. However, even under these extreme assumptions, the activities funded might affect the distribution of jobs between public- and private-sector activity, among income classes (i.e., poor vs. nonpoor), among skills, or among demographic groups. We do not examine the implications of funding for net job-creation. Instead, we assume that the activities are funded in a way that results in a net increase in total expenditure. In addition, we also assume that we are operating in a less-than-fully employed economy, so that the increased expenditure results in an increase in jobs rather than an increase in prices. Clearly, violations of this assumption could reduce the net job-creation potential of these activities. Fiscal substitution--the use by localities of federal funds to support activities that would otherwise have been funded by local funds--can affect both the net job-creation potential of activities and the distribution of jobs among various groups of workers. In this study we make a crude attempt to examine the implications of some extreme assumptions about the impact of fiscal substitution. We also consider both onsite and offsite job-creation.

Consideration was also given to a particular aspect of indirect costs--the potential inflationary pressure that could be generated as a result of labor shortages that might emerge as a consequence of these activities. To assess these shortages, estimates of the aggregate number of jobs created and the distribution of these jobs by skill (major occupation group) were compared with estimates of the aggregate supply of labor available to fill these jobs and the distribution of this supply by comparable skills.

Finally, general administrative and organizational issues that might pose significant barriers to implementation of these activities were reviewed and attempts were made to link some of these to particular types of activity.

Defining Meaningful Work

Unfortunately, the concept of meaningful work is not quite so absolute as Keats' concept of beauty[1] Rather, like the beauty that lies in the eye of the beholder, meaningful work can imply different activities to different observers. One definition commonly used in discussions of meaningful work is: activity that satisfies some "unmet social need." Unfortunately, this definition is of little value in clarifying the concept. Like beauty and meaningful work, unmet social needs can mean different things to different people.

This obscurity is further compounded when one realizes that, in principle, there can be an infinite number of unmet needs that remain to be satisfied--both in the public sector and in the private sector. In practice, however, only some of these needs can actually be satisfied.

Scarcity prevents attainment of a state of Nirvana in which all unmet needs can be satisfied. Resources are not available in unlimited supply to be applied to satisfying these needs. Consequently, priorities must be established to determine exactly which unmet needs are to be satisfied. For most private-sector goods, these priorities are established through the marketplace by interaction of suppliers and demanders and the prices that are generated. For most public-sector goods, these priorities are established through the political process by interaction of suppliers and demanders and the support of the electorate and of special interest groups.

In general, the private-sector goods and the public-sector goods selected to satisfy unmet needs can be assumed to be those with the highest "value" relative to their costs. This is the assumption underlying most economic models of consumer and voter behavior. It is this "value"--elusive and difficult to pin down--that will differ among observers and will therefore be the reason for differences among observers in the priorities they set among activities.[2]

For purposes of this study, it is not necessary to estimate the value; it is only necessary to know that the selection process is systematically based on this value relative to the cost of the activity. The "marginal" activity would be the next one selected--if an opportunity arose to make an additional selection. Such an opportunity would arise if, by provision of

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1. In his memorable "Ode to a Grecian Urn", Keats described the concept of beauty as follows:

"'Beauty is truth, truth beauty,'--that is all
Ye know in earth, and all ye need to know."

2. This elusiveness is not as troublesome for private-sector goods, since market prices serve a meaningful role in establishing these priorities among goods and services as to what will be consumed. It is more problematic for public-sector goods, where market prices do not usually exist.

federal funds, a public job-creation program lowered the cost of public-sector activities faced by local decisionmakers.[1]

It is this marginal activity that is meant to be encompassed in our definition of meaningful work. Presumably, it has value, but it is not worth the costs that must currently be paid, given resources currently available. By providing additional resources to local decisionmakers, the public job-creation program allows them to reconsider undertaking activities which are marginal to them.

Estimating Onsite Job-Creation

Information about activities that could provide meaningful work was gathered by means of field visits in Washington--with numerous federal government officials and representatives of over 50 national organizations, ranging from Goodwill Industries to the National Education Association--and in 24 counties located in eight of the ten federal regions.[2] Table 1.1 describes the 24 counties visited.

In each of the sites, visited substantive discussions were held with: locally elected officials; local, county, state, and federal government officials and staff; members of a wide variety of local advisory boards such as the Manpower Advisory Planning Committee (MAPC); representatives from community-based organizations; representatives from minority groups; labor leaders; business and Chamber of Commerce representatives; and other local citizens either involved in the operation of local government programs or knowledgeable about public-supported services in their communities. Table 1.2 displays the number of discussions held by type of official visited.

In addition to holding substantive discussions with local community representatives, correspondence was conducted and/or meetings were held with federal government officials and representatives from the national organizations listed in Appendix IB.

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[1] Of course, these funds are not costless. They must be raised either through taxes, reduced expenditure on other public-sector activity at the federal level, or increased federal budget deficits. For the first option, the federal taxpayer bears the cost; for the second option, the beneficiaries of these other federal public-sector activities bear the cost; for the third option, the cost could be an increase in inflation, which would be borne largely by consumers and holders of fixed-price assets.

[2] Originally we had planned to visit 30 counties in the ten federal regions. We had to cut back on our plans for budgetary reasons. The counties selected were a stratified random sample of all counties. The selection process was designed to insure at least one site per federal region. Three counties were selected per region so that there would be a total of ten large counties, ten moderate-sized counties, and ten small, predominantly rural, counties. For details of the sampling method, see Appendix IA.

TABLE 1.1

COUNTIES VISITED IN THE COURSE OF THIS STUDY

REGION	COUNTY	A CITY WITHIN COUNTY
Region 1	New Haven, Connecticut	New Haven
	Hamden, Massachusetts	Springfield
	Lowell, Massachusetts	Lowell
Region 3	Dauphin, Pennsylvania	Harrisburg
	Luzerne, Pennsylvania	Wilkes-Barre
	Baltimore, Maryland	Baltimore
Region 4	Liberty, Georgia	Hinesville
	Bamberg, South Carolina	Bamberg
	Richmond, Georgia	Augusta
Region 5	Ross, Ohio	Chillicothe
	Wayne, Indiana	Richmond
	Hamilton, Ohio	Cincinnati
Region 6	Harris, Texas	Houston
	Lafayette, Louisiana	Lafayette
	Grimes, Texas	Bryan City
Region 8	Eagle, Colorado	Vail
	Washington, Colorado	Akron
	El Paso, Colorado	Colorado Springs
Region 9	Sacramento, California	Sacramento
	Alameda, California	Berkeley
	Fresno, California	Fresno
Region 10	King, Washington	Seattle
	Yakima, Washington	Yakima
	Kliakitat, Washington	White Salmon

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TABLE 1.2

NUMBER OF MEETINGS HELD BY TYPE OF REPRESENTATIVE

Type of Representative	Number of Meetings Held
Elected officials--e.g., mayors, members of city councils and community commissions; school board members, etc.	50
Non-elected officials--(a) those without specific program or agency responsibilities, such as city managers and their assistants; executive staff in the offices of the mayor, city council or county commission; special assistants to a governor or other elected official, etc.	45
(b) those with program responsibility, e.g., heads of agencies for planning; housing; urban renewal; social services; corrections and other criminal justice agencies; economic development programs, etc.	125
Staff members of community-based organizations--(a) those without specific project responsibilities, such as minority group leaders; officials of the local chamber of commerce; United Way; League of Women Voters; and cultural organizations.	30
(b) individuals directly responsible for delivery of services, e.g., staffs in public-supported community centers; services for the elderly; training and vocational facilities; youth organizations; Goodwill, etc.	70

The meetings, both in Washington and in the local communities, focused on (1) identifying activities that might provide meaningful work; (2) determining priorities among these activities; and (3) identifying current or expected problems in (a) implementing PSE projects, (b) running the projects, and (c) phasing out the projects.

Data were also collected during these visits on the costs, labor intensity, skill-mix, and job-creation potential of the public service and public works activities identified as likely candidates for large-scale expansion. Data were also collected from such secondary sources as PSE project data summaries, various government reports, program budgets, program planning documents and evaluations, previous studies such as the National Manpower Survey of the Criminal Justice System, and a number of surveys conducted specifically for this research project by particular national organizations.

Onsite job-creation was estimated in two steps. First, a list of "marginal" activities--i.e., activities identified as a result of these meetings with officials and community and interest group representatives at the local and the national level--was compiled. Then, estimates of job-creation and costs were generated by determining the level of activity that would be required to completely satiate the demand for these activities, proxied by some measure of universe of need. There are two methodological issues that cause these estimates to be higher than might be socially desirable. First, since there is no consensus on what constitutes meaningful work, some of the activities identified might be questionable in that the value of the goods and services they produce may not justify their costs. Second, because of increasing marginal costs and decreasing marginal benefits, it may not be desirable to expand activities to completely satiate demand.

Estimating Total Job-Creation

Two factors can create differences between onsite job-creation and total job-creation: (1) offsite employment effects, and (2) fiscal substitution. Offsite employment effects can arise because: (a) nonlabor purchases by these activities can create employment in the industries supplying these inputs and in industries supplying the suppliers (direct and indirect employment effects); and (b) expenditures occasioned by the onsite and the direct and indirect employment effects can induce further, second-round employment changes (induced employment effects). Fiscal substitution can arise if the job-creation funds are used to support activities that would have been supported by local funds in the absence of the federal job-creation program.

Offsite employment effects were estimated from a sequential input-output simulation model developed by Golladay and Haveman to examine similar effects arising from a negative income tax program. Offsite employment effects were estimated by industry and then converted into an occupational distribution by means of 1970 Census estimates of the distribution of workers by occupation and industry. The occupational distribution was further transformed into an educational distribution by means of 1970 Census estimates of the distribution of workers by education and occupation.

The effects of fiscal substitution are difficult to pin down without further information about how the resources freed by such substitution are disposed of. Since little reliable information exists about either fiscal substitution or how the freed resources are disposed of, we made two separate estimates of total employment effects: one based on an "optimistic" assumption--that all federal job-creation funds are ultimately spent, regardless of whether or not substitution takes place--and one based on a "pessimistic" assumption--that none of the resources freed by fiscal substitution of federal funds are spent. Estimates of fiscal substitution were based on judgment because of the unreliability of existing global estimates and because of the unavailability of estimates by type of activity. It was assumed that fiscal substitution will be higher for activities representing extensions or expansions of ongoing activities (as opposed to new activities), and for ongoing activities that were already large in scale prior to their extension or expansion by the new public job-creation activity.

To identify labor-bottlenecks, estimates of onsite and offsite job-creation were compared to estimates of labor supply available from five designated target groups. The most global target group included all observed unemployed workers, all hidden unemployed (i.e., discouraged) workers, and underemployed workers.[1] More narrowly defined target groups consisted of: (a) the observed unemployed only; (b) the "long-term" unemployed;[2] (c) the "low-skill" unemployed;[3] and the long-term, low-skill unemployed.

Two sets of supply estimates were generated: one set for a job-creation program to alleviate structural unemployment problems (structural program) and one set for a job-creation program to deal with cyclical unemployment problems (countercyclical program). Estimates of supply for the structural program were generated for an aggregate unemployment rate of 4.9 percent; estimates of supply for countercyclical program were generated for an aggregate unemployment rate of 8.5 percent, 3.6 percentage points above the rate used for the structural program.

Since most workers are unemployed or underemployed for only part of a year, the actual size of a target group as measured above can seriously overstate the annual number of jobs required to alleviate these employment problems. We therefore expressed our supply estimates as the annualized full-time equivalent of the target group population.

No attempt was made to simulate the supply of potential applicants for these jobs. Instead, it was assumed that all members of these target groups would opt to participate in the public job-creation program and that all non-members would not choose to do so. It is likely that the effect of this assumption--particularly in a high-wage program--will be to understate the true supply--especially of potential applicants from those who were not in the labor force or who were employed in other jobs. Moreover, it was also assumed that members of these target groups would fill these jobs for the entire length of time they were unemployed or underemployed; i.e., that there would be no-waiting period before being eligible for the jobs. It is likely that the effect of this assumption will be to overstate the true supply of potential applicants.

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[1] Underemployed workers were defined as employed workers who were working part-time for economic reasons. An alternative definition--not used in this study--includes employed workers earning annual wages that are below some arbitrarily-defined poverty level.

[2] Long-term unemployed included workers with an average duration of unemployment of more than 13 weeks.

[3] Low-skill unemployed included workers with less than 12 years of school completed.

Priorities and Administrative Issues

Priorities among program areas were established on the basis of judgments by public officials and community representatives about: (a) excess demand for public services, and (b) changes in activities that might result from an increase or a decrease in federal funding.

Our analysis of organizational and administrative issues was based on an extensive literature review and on material gathered on our site visits--both in Washington and in the field.

Summary of Findings

Earlier studies produced estimates of onsite job-creation potential that ranged between 300 thousand and 5.3 million, depending on the scope of activities examined and the methods used to generate estimates. We tried to be more comprehensive than these past studies, by examining all activities at by comparing skills required by the jobs with skills available to identify potential skill-bottlenecks, by examining possible priorities among activities, and by building into our estimates possible barriers to implementation expected to arise from administrative or organizational factors.

1. The study identified 233 potential job-creation activities in 21 different program areas. This list of activities, together with the summary of their characteristics, should provide valuable guidance to prime sponsors and other program administrators charged with the responsibility for developing such activities. The largest number of activities were in the following program areas: public works (37), environmental quality (31), education (27), social services (27), and criminal justice (24). Estimates of onsite jobs and costs could be generated for 115 activities. These 115 activities were estimated capable of generating 3 million onsite jobs at a budgetary cost of $46 billion, or slightly more than $15,000 per onsite job. These per-job costs ranged as low as $8,000 for cultural activities (including museums and public libraries) to as high as $41,000 for public works. A large number of additional onsite jobs could have been created by the 118 projects for which estimates could not be generated. These estimates of potential job-creation should, therefore, be considered quite conservative on this account. However, while both the 115 and 233 activities are technically feasible, they may not be the best way to allocate scarce government resources. The value of some of these activities, may not be sufficient to justify their costs. And, for other activities, the costs of trying to satisfy the entire demand might prove

to be prohibitive. The estimates presented in this study are likely to be biased upward, and should therefore be considered liberal estimates, on these accounts.

The largest number of onsite jobs would be generated with the following activities:

Activity	No. of Jobs
Reducing class-size in public schools by using more teachers	363,500
Using more classroom- or teacher-aides	238,000
Increased staffing in law enforcement agencies	168,000
Using more special education teachers for the handicapped	160,000
Expanding publicly-supported day-care services	139,000

These five activities provide over one-third of the onsite jobs estimated in this study, implying that the remaining 110 activities could each provide a relatively small number of jobs. Only 14 of the 115 activities would be able to provide more than 50,000 jobs at the national level.

Eleven of the 21 program areas generated activities which, on average, could be considered "labor-intensive" (i.e., at least 70 percent of their total costs are labor costs), and eleven could be considered "low-skill" (i.e., at least 70 percent of the onsite job slots can be filled by unskilled laborers or service workers--the lowest-paying occupation classes). About 40 percent of all onsite jobs--or 1.2 million jobs--can be considered low-skill.

2. Available data permitted us to estimate offsite job-creation for only 114 of the 115 projects for which onsite estimates were made. The estimated number of onsite and offsite jobs that could be generated varied according to the assumption adopted about fiscal substitution and whether the resources freed by such substitution are ultimately spent. The "optimistic" scenario assumed that all job-creation funds are ultimately spent, regardless of whether or not fiscal substitution occurs, and the "pessimistic" scenario assumed that none of the funds freed by fiscal substitution are spent. An estimated 3.5 million jobs could be created from the 114 projects under the pessimistic scenario and 7.4 million jobs under the optimistic scenario. The effect of these additional jobs is to lower the budgetary cost per job created from $15,000 (for onsite jobs) to approximately $5,800 (under the optimistic scenario) or $12,100 (under the pessimistic scenario) for both onsite and offsite jobs.

Moreover, the characteristics of jobs created offsite would differ noticeably from jobs created onsite. For example, while low-skill jobs would constitute over 40 percent of the onsite jobs, they would represent only 15 percent of the offsite jobs. Thus, one effect of offsite job-creation would be to lower the percentage of jobs that can be filled by low-skill workers from over 40 percent to only 25 percent. The actual number of low-skill jobs capable of being generated increases from 1.2 million to over 1.8 million (under the optimistic scenario); it falls to slightly less than 900 thousand under the pessimistic scenario. A major conclusion to be drawn from this finding is that, because offsite employment effects of these activities is substantial and because these jobs differ in characteristics from onsite jobs, inferences about the average costs and targeting effectiveness of job-creation programs should not be drawn from onsite job-creation and cost data only. It is reasonable to conclude that, ultimately, all job-creation funds will be spent (although, in the short run, some funds freed by fiscal substitution might not). Thus, if only the 114 activities for which onsite and offsite job-creation estimates were derived could be implemented, then roughly 7.4 million jobs could be created at an average budgetary cost of roughly $5,800 per job, and at least 1.8 million of these jobs (approximately one-fourth of the total) could be filled by low-skill workers.

3. The supply of workers available varied with the nature of the target group and the nature of the program. The following number of jobs would be required to meet the employment needs of alternative target groups in a structural program:

Target Group	No. Jobs Required (in millions)
All unemployed (actual and hidden) plus underemployed	4.5
All unemployed (actual only)	2.5
Long-term unemployed	1.2
Low-skill unemployed	1.0
Low-skill, long-term unemployed	0.5

The following number of jobs would be required to meet the employment needs of alternative target groups in the combined structural-cyclical programs examined in this study:

Target Group	No. Jobs Required (in millions)
All unemployed (actual and hidden) plus underemployed	7.1
All unemployed (actual only)	4.6
Long-term unemployed	3.1
Low-skill unemployed	1.7
Low-skill, long-term unemployed	1.2

4. It was found that the markets for white collar workers--both professional-managerial and clerical-sales--and service workers were most likely to experience bottlenecks even in a situation of rough aggregate balance. However, these skill-specific bottlenecks were not considered serious hindrances to the feasibility of implementation of these activities since they could easily be alleviated by drawing on additional supplies available from unemployed and underemployed white collar workers who were not members of the target group.[1] A policy implication to be drawn from this finding is that targeting restrictions and eligibility criteria ought to be flexible enough to allow for some selection from outside the target groups or populations of eligibles specified for the program. Such flexibility will tend to minimize potential skill bottlenecks.

We found that labor-intensive, low-skill activities could serve as a reasonable basis for national job-creation in a structural program. Additional labor-intensive activities could be added to meet the needs of a countercyclical job-creation program as the occasion warranted.

5. Determining priorities among the program areas proved to be a difficult task for a number of reasons. First, the officials and representatives whose judgments formed the basis for our study of priorities were not necessarily a representative sample. Second, even if they were, their opinions do not necessarily reflect the combined judgments of all members of the communities they represent. Finally, there was a notable lack of consensus, even after these officials and representativs were stratified by type, as to program areas in which there exist excess demands for public services and areas in which additional federal funds should be spent. For these reasons, the findings on priority program areas should be treated with caution.

The process developed to identify priority areas consisted of several steps. First, areas identified as areas of excess demand by at least 20 percent of officials and representatives were isolated. Then, from among those areas, ones selected for increases in additional federal funding of at least 10 percent and ones selected by a large number of officials and representatives for increases rather than for decreases were isolated. The areas that met all of these test were defined as priority areas.

The area of environmental quality met the test for all local area public officials and representatives contacted. The following areas met the test for all officials and representatives except elected public officials--housing, health, and criminal justice. These areas provide roughly one-sixth to one-fifth of the 3 million jobs created by the activities identified in this study.

6. Administrative and operational issues were examined on the basis of an extensive literature review and from information acquired during the course of our fieldwork. The following issues were identified as potential barriers

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[1] For example, in a program targeted at long-term unemployed workers, skill bottlenecks could be alleviated by drawing on the supply of skill available from non-long-term-unemployed workers.

to effective implementation of activities funded under a large-scale public job-creation program:

- ambiguous program goals
- red tape
- inadequate time for planning
- targeting
- inadequate resources for training, supervision, and materials
- pressure group problems (e.g., unions, competition, in private sector)
- transition requirements.

Each of these issues can render a project (or groups of projects) infeasible.

Two issues--inadequate time for planning and inadequate resources for training, etc.--were singled out as amenable to policy action that would minimize the difficulties they now produce. The former can be alleviated by more stable funding patterns. However, this improvement may be purchased at the cost of more fiscal substitution unless more effective constraints are imposed on how funds will be utilized and greater effort is made to assure that maintenance-of-efforts provisions are honored. The latter can be alleviated by liberalizing the current requirement that no less than 85 percent of the funds be spent on the wage bill. While this liberalization may reduce the onsite job-creation performance of the program, it would increase the range of feasible activities and it may improve the long-range benefits accruing to program participants by providing them with better on-the-job training experience.

II. ACTIVITIES SUITABLE FOR PUBLIC JOB-CREATION AND THEIR CHARACTERISTICS

Introduction

A policy issue that surfaces in debate and discussion of public job-creation is: How many "meaningful" jobs can be created, where meaningful is defined in terms of some output that is of value to society. Another way of saying this is to ask: How much can we expand publicly-supported activities to create jobs before we begin creating makework projects that have no value other than provision of jobs (the so-called leaf-raking projects)? Presumably, activities that serve to produce new or additional publicly-supported services of value to members of society can be considered meaningful. To estimate the job-creation potential in such activities, an attempt was made to develop a comprehensive list of areas for new or additional services. Then, where possible, estimates were made of the kinds and magnitude of resources (labor and nonlabor) required to produce these public goods and services.

This volume describes the methods and findings used to accomplish these tasks. Past research findings are described; methods used to identify activities that might be suitable candidates for a public job-creation program and to estimate the job-creation potential and costs of these activities are discussed; and findings are then summarized.

The study identified 233 activities that could be undertaken to meet public needs and create jobs for the unemployed. Sufficient data were available to develop estimates of potential number of jobs that could be created and associated costs that would be incurred in expanding 115 of the 233 activities. Activities were classified into 21 program areas. Each of these 233 activities are described in detail by program area in Appendix IIA. The number of onsite jobs for the 115 activities for which such estimates could be made is also given in Appendix IIA. If expanded, these 115 activities would be able to generate 3.0 million onsite jobs at a cost of 46 billion dollars. Obviously a large number of additional onsite jobs could be created by expanding the other 118 projects but reliable data could not be obtained to estimate the job-creation potential of these activities.

Estimates of the labor intensity of each category of projects are provided and summarized by program area in Table 2.3. Eleven of the 21 major activity areas identified could be considered labor intensive in that at least 70 percent of their total costs consist of labor costs. Estimates of the skill distribution within each category of projects are also provided in this volume and summarized in Table 2.3. Similarly, eleven of the 21 major activity areas could be considered "low-skill" activities in that over 70 percent of the slots can be filled with unskilled laborers or service workers, occupations that pay the lowest average wages of all the major occupation groups.

Review of Past Research

A brief review of previous efforts to estimate the job-creation potential of various public service and public works activities supports the conclusion that the job-creation potential of expanding publicly-supported services is considerable. Estimates derived from previous research range from 300,000 to 5.3 million jobs, depending on the scope of activities examined and methods used to generate estimates.

Sheppard contends that there is no best way for estimating the number of job vacancies that could be filled by underemployed and poor job seekers or the number of new jobs that could be created for such persons (Sheppard, Harrison and Spring, 1972). A brief review of previous efforts supports his contention.

Sheppard cites the National Commission on Technology, Automation, and Economic Progress (1966) estimate that 5.3 million new jobs could be created through expanding public service and public works activities. Unfortunately, neither sources nor methods were reported by the Commission nor are they available now. Thus, it is difficult to evaluate this estimate. Sheppard reported the following breakdown of these jobs.

Program Area	Number of Jobs (millions)
Medical Institutions and Health Services	1.20
Educational Institutions	1.10
National Beautification	1.30
Welfare and Home Care	0.70
Public Protection	0.35
Urban Renewal and Sanitation	0.65
TOTAL	5.30

Source: Sheppard, p. 31.

A more documented and systematic effort was carried out in 1965 for the Office of Economic Opportunity. The study, prepared by Greenleigh Associates, estimated that, over a period of several years, 4.3 million job opportunities could be created for low-skill persons in public service and public works activities. Their estimates are summarized below:

Program Area	Number of Jobs (millions)
Health, including hospitals and mental health	1.4
Education	2.0
Day Care	0.0
Recreation and Beautification	0.1
Libraries	0.1
Public Welfare	0.1
Public Works	0.1
Police and Fire	0.1
Defense	0.4
TOTAL	4.3

Source: Greenleigh Associates, p. 31.

The Greenleigh study concluded that most of the 4.3 million jobs would be in the areas of health and education. In addition, the study concluded that it was not feasible to expand these programs to create 4.3 million jobs in either the first or second year of expansion. The study estimated that "in the first year . . . about 470,000 jobs might be possible under a well planned public employment program" (Greenleigh Associates, p. 28).

The Greenleigh estimates were derived primarily from interviews with federal, state, and local public agency officials who were asked their opinions as to the numbers of jobs that could be created in expanding the delivery of (1) health care, (2) education, (3) day care, (4) recreation and beautification, (5) libraries, (6) public welfare, (7) probation and parole, (8) public works, (9) police and fire, (10) prisons and institutions, and (11) services for dependent and delinquent children. Interviews were held with representatives from 38 federal, state and local public agencies, and 46 professional associations and non-profit agencies. The study also reviewed available "needs studies" regarding various public services and public agencies. In addition to carrying out fieldwork, Greenleigh organized a large group of special consultants into two panels to aid in determining appropriate research methods in areas where the data were limited.

The methods used to convert the information collected during the study into job-creation estimates varied from program area to program area. Generally, the following criteria were considered in deriving the job-creation estimates (Greenleigh, p. 28):

- The jobs should be worthwhile, socially useful jobs that have a legitimate place in the economy.
- The jobs could be filled by persons with a minimum of pre-entry skill, education and training.
- The employing organizations would have the capacity to absorb the additional personnel and the potential to provide required inservice and on the job training and supervision.
- The jobs could be established without substantial additional capital expenditure.

The job-creation estimates made in the study were soft--due, in large part, to the "lack of available suitable data upon which to base estimates . . . [of] the kinds and numbers of jobs that could be established" (Greenleigh, p. 3).

A third study was conducted by Sheppard in 1968. Sheppard surveyed a sample of approximately 35 mayors of cities with over 100,000 population and requested them "to indicate which municipal functions in a list of 13 needed at least a 10 percent increase in services and/or personnel in order to meet their commitments." He then extrapolated the results of his sample to estimate that 300,000 new jobs[1] could be created nationally in expanding public services in cities of over 100,000 population. Sheppard stated this estimate was biased downward one for several reasons. First, only 13 and not all municipal functions were included.[1] Second, the estimate took into account only cities of over 100,000 population and no attempt was made to extrapolate to the total economy. Third, neither state and county governments nor nonprofit organizations were included in the survey.[2] For these three reasons Sheppard concluded that his estimate of 300,000 jobs was far below the job-creation potential realizable on a national scale through an expanded public employment program (Sheppard, pp. 33-37).

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[1] Sheppard derived his estimate of 300,000 jobs by assuming that employment in the functions identified for expansion would be expanded by ten percent.

Two studies were undertaken in 1976 to investigate the job-creation potential in several public service areas. One of these studies, by Hausman, et al., examined the job-creation opportunities in two areas: housing rehabilitation and social services. The social services analyzed included: (1) day care services for children, and (2) homemaker, meal preparation, and transportation services for the elderly. The other study, by Spring, et al., provided job-creation estimates for housing--both rehabilitation and new construction--day care, and railbed repair.

The method used in both studies starts from the same basic premise: Jobs are derived from the implicit demand for final products. This implicit demand is the quantity that would be demanded for that level of activity if financial resources were available to the community on an open-ended basis and if there were no constraints on expanding that activity (i.e., labor or material shortages, etc.). For example, the implicit demand for housing rehabilitation is based on the number of physically inadequate housing units in the country; it is that amount of rehabilitation necessary to repair all such housing units. The job-creation potential from this implicit demand is based on estimates of the labor requirements per unit of implicit demand (housing unit, dollar, etc.). The job-creation potential is determined by multiplying the number of units of implicit demand (number of houses and cost per house) by the labor requirement per dollar of rehabilitation. A variation on this method was used by Spring, et al., to estimate the employment potential in day care. The implicit demand estimate for day care at the national level was generated (estimating the number of children who would use day care at zero cost). Then a particular day care program model, one that serves 25 children, was selected to approximate the labor and other input requirements per unit of implicit demand. These estimates of labor requirements were then used to generate the national job-creation potential in expanding day care services to provide services to all children who are estimated to be in need of additional day care services. The job-creation estimates from these two studies are presented below:

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[1] These 13 categories comprise a total of 90 percent of the total workforce of a typical city.

[2] Full-time equivalent employment in city governments was less than one-fourth of full-time equivalent employment in all state and local governments in 1965.

Program Area	Number of Jobs (in thousands)
Housing Rehabilitation	140*
Social Services for the Elderly	260
Day Care	215

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*In each of the next 10 years.

Source: Hausman, et al., pp. 40, 49, 52.

Program Area	Number of Jobs (in thousands)
Day Care[1]	588
Railbed Repair	100
Housing Rehabilitation	2,400-3,200
New Housing Construction	1,2 00 per 1.0 million new units

Source: Spring, pp. 127, 128, 136, 145.

While these procedures may provide plausible long-run estimates, they sometimes assume an absence of constraints that could hinder rapid expansion of these activities. Thus, these studies assume that because there is a need for several billion dollars of railbed repair, there exists the job-creation potential to meet this need. As one will see from reading this volume, we do not assume that unmet needs can be translated automatically in job-creation activities for the unemployed. For example, our further investigation of the job-creation potential in railbed repair included meetings with Conrail and Amtrak officials. After our meetings with them, we understood the tremendous barriers that stand in the way of creating jobs for the unemployed through railbed repair. The reader will note that this study simply does not give an estimate of the number of jobs that could be created in railbed repair (see Table 2.3).

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[1] The estimates of the job-creation potential in day care services vary radically between the Hausman and Spring studies. The Spring, et al., study assumes that 2 million children are in need of day care and 80,000 day care centers would be needed with a total staff of 588,000. Hausman, et al., estimate that there are 1.4 million children on AFDC between the ages of 3-5. Assuming that 700,000 need day care, then the program would need 215,000 workers to carry it out based on labor requirements of current day care programs. This illustrates how different estimates of the implicit demand and different assumptions concerning the labor requirements per unit of service will significantly alter the job-creation potential estimates.

Thus, previous studies, due to their lack of fieldwork, overlooked important potential constraints such as (1) shortages of labor or materials in specific industries; (2) political or union-related problems in carrying out such an activity under some form of public employment program; and (3) administrative problems with the delivery system such as integration and/or coordination of activities among the various social service agencies and governmental units involved. These constraints are examined in more detail in Volume III. Because these previous studies fail to take such constraints into account, their estimates may overstate the short-term job-creation potential of the limited number of activities they examine.

The most recent attempt to identify publicly supported activities that could be expanded and to estimate their job-creation potential was made by the Department of Labor (DOL) in 1977 and early 1978. The study was conducted by the Office of the Assistant Secretary for Policy Evaluation and Research (ASPER) in conjunction with the Employment and Training Administration (ETA) as part of the planning effort for the jobs component of the proposed welfare reform package, the "Program for Better Jobs and Income." Agency staff members surveyed federal government officials and reviewed current public service employment activities to identify viable job-creation projects for low-skill workers. Methods used to estimate job-creation potential varied. In some instances, such as day care and meals on wheels, implicit demand data were gathered.[1] More often, federal officials were asked to provide the Department of Labor with estimates of the number of new low-skill jobs that could be created within a year to help the agency carry out more fully its mandate and programs.

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[1] For example, in determining the job-creation potential in day care, the study states:

> It is estimated that some 230,000 women with children under the age of six (200,000 full-year equivalent slots) will volunteer for the work and training slots under the welfare reform program. If each of these women has an average of two small children, this will generate a demand for 400,000 day care slots. Given the non-professional staff/child ratio of one to six for pre-school care, and assuming that only half of these children receive formal day care arrangements, some 33,000 non-professional full-time child care slots could be created to serve this population.
>
> In addition, over 330,000 low-income women (income less than $7,500 per year) with children under the age of six, currently work year-round. An additional 540,000 low-income women with children under six work part-year producing an equivalent of 240,000 years of work effort. If each of these 570,000 equivalent full-year workers has an average of two small children, and if 50 percent of these children currently receive inadequate child care, under the one to six ratio, an additional 95,000 child care related non-professional jobs could be created to meet these needs.

To estimate the job-creation potential in meals on wheels and homebound services for the elderly, the study states:

The number and type of low-skill job-creation possibilities listed by the DOL study are summarized below:

Category	Estimated Number of Jobs (in thousands)
Public Safety	112
Recreation Facilities	200
Facilities for the Handicapped	25
Environment	50
Child Care	150
Waste Treatment & Recycling	25
Cleanup and Pest/Insect Control	100
Home Services for the Elderly & Ill	200
Recreation Programs	50
Energy Conservation	50
Paraprofessions in the Schools	200
School Facilities Improvement	100
Art & Cultural Actvities	75
Health	50
Community Development Related Services & Facilities	20
Transportation	4
TOTAL	1,411

Source: Welfare Reform Fact Sheet, February 22, 1978, p.4.

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1. (continued)
Currently, 120,000 persons are served by the "meals on wheels" program under the Older American Act. An estimate, made for the Senate Select Committee, states that an additional 1 million individuals are eligible and in need of this service. On the basis of current operations, one additional worker is needed for each 9 persons served. Thus, there exists the potential for a total of 99,000 jobs to be created in providing additional meal services for the elderly. In addition, studies based on work by The Urban Institute and others estimate that an additional 138,000 workers are needed to provide homemaking and home health services to the homebound.

Welfare Reform Fact Sheet, February 22, 1978, pp. 13, 18.

Identifying Job-Creation Activities

The recent research of Hausman, et al., and Spring, et al., and the Department of Labor was limited in scope to the investigation of only a few program areas or to low-skill jobs. Although the earlier research of Greenleigh and Sheppard was more comprehensive in scope, the job-creation estimates were not explicitly based on implicit demand and the costs of job-creation were not estimated.

This study seeks to build upon these previous works and to avoid some of the problems outlined above. It attempts to be comprehensive in scope, to estimate job-creation potential on the basis of implicit demand and potential constraints, and to estimate the costs of such job-creation.

Approximately 80 percent of the 233 activities identified as appropriate for expansion were derived from over 300 visits and meetings held from April 1977 through March 1978 with officials from federal, state and local public agencies and private non-profit organizations in over 50 cities.[1] Each person was asked to discuss public service or public works that could be expanded to meet public needs. In addition each person was asked which activities would be given priority for expansion if additional funds were made available.

The remainder, approximately 20 percent of the 233 public service and public works activities identified by this study, were drawn from previous "needs" studies conducted by government agencies at the federal, state and local levels and by private non-profit organizations, such as Big Brothers/ Big Sisters of America, the National Education Association, the National Planning Association, Goodwill Industries of America, and others. From these studies, activities were identified on the basis of waiting lists for public services, and the existence of local requests for grants from various federal agencies that had not been funded due to lack of budget resources.

The identified activities were grouped into 21 "program areas" listed (with the number of specific activities identified in each) in Table 2.1. This classification system is an expanded version of the DOL system used in CETA. (The full list of detailed projects and activities is included in Appendix IIA with the job-creation potential estimates provided on a project by project basis.) Of the 233 activities identified, over one-half were concentrated in five areas: (1) government buildings and public works (37); (2) environmental quality (31); (3) education and school-related activities (27); (4) social services (27); and (5) criminal justice, correctional facilities, and public safety (24). Although an attempt was made to be comprehensive, additonal activities of creating jobs for the unemployed probably exist. We believe that the ones identified in this study are more likely to be expanded with additional funding than others because they were identified by potential decisionmakers or because there was evidence of excess demand. These factors are described in more detail below.

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[1] A more detailed description of the fieldwork appears in Chapter I.

TABLE 2.1

ACTIVITIES IDENTIFIED AS CANDIDATES

Program Area	No. of Activities
Community Development Related Services and Facilities	8
Criminal Justice, Correctional Facilities, and Public Safety	24
Cultural Activities, Museums, and Public Libraries	9
Education and School Related Activities (school building, recreation and other programs in public schools, etc.)	27
Energy Conservation and Production	5
Environmental Programs	31
Federal Government Staffing Increase	4
Fire Protection and Prevention	4
Food and Nutrition Oriented Activities	6
Health Care	4
Housing and Public Housing Related Activities	12
Local Government Supported Buildings and Public Works	37
Local Government Administrative Staff (including CETA and ES)	6
Parks and Recreation	10
Private (for profit) Sector Oriented Activities	4
Social Services - Children and Youth	7
Social Services - for the Elderly and/or Mentally or Physically Handicapped	20
Social Services - General	7
Social Services - Women	3
Social Services - Other	1
Transportation	4
TOTAL	233

In this report we list all activities identified that are feasible to expand under a public employment program. Certainly all activities identified in this report as potential job-creation projects will not produce equally meaningful output. Even among those activities which have been identified, there can be honest differences of opinion as to the value of what they produce. For example, to the research staff of the National Education Association reducing class size from current levels is a meaningful activity producing a valued output. On the other hand, school administrators and some scholars might not agree, arguing that class size has no significant effect on student performance. Therefore, the validity of the activities that we have identified rests heavily with the source of the information. We leave it to the reader to make his or her own assessments for each activity.

The next section discusses methods used to estimate the job-creation potential of the 115 activities. It should be reiterated that we identified 233 activities that are suitable for expansion to meet public needs and create jobs for the unemployed. However, sufficient data do not exist to provide even "soft" estimates of the number of jobs that could be created in expanding 118 activities. Many sources of data were pulled together to derive the job-creation estimates for the 115 activities. The quality of the estimates varies with some estimates being "softer" than others. In the section of this volume referred to as "Detailed Findings," data sources and all assumptions made using these data are described for every job-creation project.

Determinants of Potential Job-Creation and Costs of Activities Identified

One of the most important determinants of potential job-creation is the excess implicit demand (unmet need) for the output of a given activity. Excess implicit demand (unmet need) for these activities can be defined as the difference between implicit demand--the quantity that would be consumed at zero price --and existing supply.[1] Our measure assumes that activities are expanded until this excess demand is eliminated. This assumes the absence of any short-run constraints, such as unavailability of resources, red tape, unions, legislative delays, political unacceptability, etc., on expansion of the activity. When such constraints are operative, the short-run expansion possibilities for activity are less than the long-run possibilities.

The job-creation potential of expanding a given activity can be derived from a "productivity" function for that activity representing its labor content. In principle, the factors affecting the labor content of an activity can be derived from the parameters of the production function. However, little is currently known about these parameters.[2]

Estimates of the costs of expanding these activities were also derived. If it can be assumed that average (per unit) costs are an adequate measure of the costs of expanding an activity, these costs can be estimated from the "productivity" function, the average wage paid in the jobs required, the average price of non-labor inputs required, and the amount of non-labor inputs required. This method of estimating costs assumes that costs do not rise as the activity level is expanded.

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[1] For clarification on the definition used for implicit demand, see infra, p. 15.

[2] Several general studies have been conducted in this area but were not readily applicable to our estimating the job-creation potential of the specific activities identified in this study. A good example of these studies is Borcherding and Deacon.

This simple model surfaces four critical variables used in the estimation of job-creation potential and costs at a national level: excess implicit demand, constraints, labor content of activity, and average (per unit) costs of the activity.

Sources Used to Estimate Key Variables

Excess Implicit Demand. Information describing this variable was collected from sources that included previous studies, agency planning documents, and budgets from a wide variety of agencies and organizations. The sources consisted of (1) federal, state, and local government agencies, (2) associations representing specific community organizations (such as Big Brothers/Big Sisters of America, Goodwill, Inc., etc.), (3) associations representing various quasi-governmental organizations (i.e., Special Districts) such as the National Association of Conservation Districts and the National Education Association, (4) experts with experience in specific activities such as "child care and welfare," (5) associations representing specific target groups such as the American Federation for the Blind, (6) experts on Congressional Staff Committees who have made such studies in preparation for writing legislation for programs such as "Meals on Wheels," (7) an analysis of unfunded project applications from the public works (EDA) program expansion of 1977, and (8) an analysis of the employment potential of various new pieces of federal legislation such as the Resource Conservation and Recovery Act of 1976 and the HEW 504 program requiring that educational facilities and programs be made accessible to the handicapped. This information described excess implicit demand of need in terms of (a) units of service, (b) numbers of people in need of services, or (c) the estimated expenditure levels necessary to satisfy excess implicit demand on a national level.

Labor Inputs Required. Information on this factor came from studies of the labor requirements of ongoing activities, planning documents, and judgments of program directors at local levels, knowledgeable project monitors and experts at state and federal levels. Information such as current appropriations, employment in the agencies, and clients served determined our estimates of the requirement for workers in a specific activity and was used to project the number of additional workers that would be required to expand production to meet the implicit demand of the universe of need. Labor and non-labor shares of total costs were estimated from previous studies and program planning and performance review documents describing the current operational characteristics (labor and non-labor shares of total costs) of the activities in various cities. When this information was not available from secondary sources, the judgments of federal, state, and local public agencies and nonprofit organizations knowledgeable about current activities were used to estimate the labor and non-labor shares of the total costs of expanding the activities.

Costs of Current Activities. Information on costs of expanding activities came from agency documents that showed current appropriations, the number of persons employed, and the number of recipients of the services under the various programs. Information was also gathered through field visits with persons involved in the delivery of these services at the local, state, and federal levels. The method used most often assumes that average (per unit) cost will remain constant. Though somewhat unsatisfactory, lack of more adequate available data limited our ability to project additional costs of expanding the 115 activities with much precision.

Feasibility of Rapid Expansion. Investigating the potential constraints of expanding public service and public works activities required the collection of information concerning start-up time, potential implementation problems, etc., from agency documents, interviews with locally elected officials, persons involved in the supervision of the delivery of these services, and federal agency staff members. The feasibility of rapid expansion was in large part determined by assessing whether there were constraints to expansion of the activity in question other than budgetary constraints. The example provided earlier of the constraints involved in railbed maintenance and repair is a good example where "needs" exist, but due to a variety of constraints, large-scale job-creation is not possible.

Methods Used to Estimate Potential Job-Creation and Costs

The estimation procedure used most often in this study is a simple, but consistent framework that represents the state-of-the art in estimating the labor requirements or job-creation potential in expanding an activity. This procedure relies primarily on the use of secondary information sources and the quality of the estimates varies according to the quality of the information that currently exists. For example, this study did not conduct a national survey to estimate the number of restorable houses that are currently substandard and in need of rehabilitation. This information (referred to below as "excess implicit demand" data or "unmet need" data) was collected from a secondary source--a study of housing needs (Birch).

After deriving estimates of excess implicit demand (where this was possible), three other questions were asked in order to derive job-creation estimates. First, what are the labor requirements necessary to expand the activity to meet the estimated excess implicit demand? Second, what would expansion of this activity cost? Third, is it feasible to expand this public service or public works activity to meet the estimated level of excess implicit demand?

For a majority (64) of the 115 activities for which we estimated job-creation potential, reliable data were collected on all four variables--excess implicit demand, labor inputs required, estimated costs of expansion and feasibility of rapid expansion. For a minority of the projects where job-creation estimates are provided, secondary data sources did not provide reliable estimates on all of the key variables. These job-creation estimates rely heavily on information collected through surveys conducted by federal agencies for this study, through fieldwork conducted by AIR, and through various assumptions which are made explicit in this volume.

Job-creation estimates were generated using one of five basic methods described below. The method used depended on the availability and type of suitable data to estimate the variables of the model outlined above. Table 2.2 summarizes activities by method used for estimating job-creation potential.

The first method (#1)--used for over one-half of the 115 projects for which estimates were possible--was applied when data were available to estimate each of the key variables--excess implicit demand, labor inputs required per unit of activity, and average (per unit) costs of the activity. The activities analyzed in this manner consisted largely of public works activities, criminal justice, environmental activities, and housing activities.

In a few cases (two activities), reliable data existed for all key variables except "labor inputs required." For these cases where excess implicit demand, costs, and feasibility (constraints) could be obtained from secondary data sources, the judgments of knowledgeable federal agency officials provided this study with an estimate of the "labor inputs required." For example, water supply surveys are required by the Resource Conservation and Recovery Act of 1976 and estimates have been made regarding the number of supplies to be surveyed (excess implicit demand). Unfortunately, there has never been a large-scale survey of water supplies nor have any estimates been made of the labor requirements necessary to survey water supplies. Therefore, estimates of the labor input required for this activity were based on the judgments of federal agency officials. These data were then combined with data obtained from secondary sources on excess implicit demand, estimated costs, and potential constraints. Estimates of the job-creation potential in these areas rest heavily on the accuracy of the judgments of the federal officials interviewed and are not considered as accurate as those where better data regarding the labor requirements per unit of service were available. Where "labor inputs required" is the only key variable for which secondary data were not available, we refer to this as method #2.

In some cases (eleven activities), reliable data existed for all key variables except "excess implicit demand." An example is ramping curbs to make streets more accessible for the physically handicapped. Demand exists for this activity as it is now required by law in areas where federal funds are being used for construction. Secondary data sources have reliable information on the labor inputs, costs, and potential constraints. However, no reliable data exist regarding the number of intersections that need to be ramped in order to make commercial and high density neighborhoods accessible for the handicapped. Reliable estimates of excess implicit demand (number of curbs that require ramping) for this activity were therefore not possible. Estimates of the number of ramps needed in cities of various sizes were collected from a variety of sources during the field visits and interviews held in cities of various sizes. For purposes of estimating the national job-creation potential of these types of activities where "excess implicit demand" data were not available, we took the information gathered from the field visits and assumed that the level of implicit demand varied with city size. For these six activities where inadequate secondary data exists, very conservative estimates of excess implicit demand were generated to guard against overstatement of the job-creation potential. Where "excess implicit demand" data represents

TABLE 2.2

METHODS OF ESTIMATING JOB-CREATION POTENTIAL

CODE	PROGRAM AREA	Total Number of Projects	Number of Projects by Method of Estimation					
			#1	#2	#3	#4	#5	No Estimate
01.	Community Development Related Services and Facilities	8	-	-	-	-	2	6
02.	Criminal Justice, Correctional Facilities and Public Safety	24	9	-	1	-	1	13
03.	Cultural Activities, Museums, and Public Libraries	9	-	-	-	1	-	8
04.	Education and School Related Activities (school bldgs., recreation & other programs in public schools, etc.)	27	3	-	2	10	-	12
05.	Energy Conservation and Production	5	1	-	-	-	2	2
06.	Environmental Programs	31	7	2	2	2	2	16
07.	Federal Government Staffing Increases	4	-	-	-	3	-	1
08.	Fire Protection and Prevention	4	-	-	-	-	2	2
09.	Food and Nutrition Oriented Activities	6	-	-	-	-	-	6
10.	Health Care	4	1	-	-	1	-	2
11.	Housing and Public Housing Related Activities	12	5	-	-	1	1	5
12.	Local Government Supported Buildings and Public Works	37	32	-	5	-	-	-
13.	Local Government Administrative Staff (including CETA and ES)	6	-	-	-	-	-	6
14.	Parks and Recreation	10	1	-	-	-	1	8
15.	Private (for profit) Sector Oriented Activities	4	-	-	-	-	1	3
16.	Social Services - Children and Youth	7	2	-	-	3	-	2
17.	Social Services - for the Elderly and/or Mentally or Physically Handicapped	20	3	-	1	-	2	14
18.	Social Services - General	7	-	-	-	-	3	4
19.	Social Services - Women	3	-	-	-	-	-	3
20.	Social Services - Other	1	-	-	-	-	-	1
21.	Transportation	4	-	-	-	-	-	4
	TOTAL	233	64	2	11	21	17	118

the only key variable for which secondary data were not available, we refer to this as method #3.

The fourth method of estimating the job-creation potential (#4) was used for 21 activities where there are no secondary sources of data that yield reliable estimates of either excess implicit demand or labor input requirements. For example, data are available estimating the number of neighborhood arts councils and museums that exist in the country. However, staffing patterns required by such facilities are not known. Surveys far beyond the scope of the present study would be required to provide information on which to base some ratio of the numbers of staff required per "client" served, or to assess some level of excess implicit demand. The estimates of the job-creation potential using this fourth method are a function of the number of service providers (e.g., schools, art councils, etc.) and the estimated additional staff positions that could be effectively utilized in various size institutions (schools). For example, to estimate the number of employment opportunities that could be created in expanding "after-school tutoring" activities, we met with local school officials and national organizations such as the National Education Association. They were asked to estimate the number of jobs that could be created in schools of varying sizes. Although no secondary data sources exist on either the "excess implicit demand" or the "labor inputs required" to expand such an activity, those knowledgeable regarding the need for expanding this activity were willing to make tentative estimates of the job-creation potential. For this particular activity, the NEA research staff estimates that in the largest schools (with 120 or more teachers) an additional 14 tutorers (teaching 10 students each) could be used. In schools with 100-119 teachers, 10 after-school tutorers could be used on average. (For more detail on this example, see pp. 48-49.) Estimates of the number of additional staff required by service providers were also obtained from surveys conducted by such organizations as the New England Foundation for the Arts and from information gathered from local officials during the field visits to local regions. The estimates generated by this method are certainly "softer" than the estimates generated when only one key variable could not be estimated from secondary data sources.

A fifth method to generate plausible estimates of the job-creation potential (#5) was used for 17 projects where secondary data sources do not estimate either (1) excess implicit demand, (2) labor requirements per unit of service, or (3) current national scope of activity in terms of numbers of workers involved. Reasonable estimates of job-creation potential without such data are possible, albeit "soft," when one can assume that excess implicit demand and job-creation potential varies directly, but not necessarily proportionately, with the size (population) of a city or area. In some activities, economies or diseconomies of scale might be realized in the larger population areas.[1]

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[1] Studies have shown, for example, that per capita expenditures for government services at the local level are subject to both scale economies and scale diseconomies, depending on the service examined (Borcherding and Deacon). Studies have also shown that activities, measured either in terms of expenditure or employment, are sensitive to population density. (See, for example, Ehrenberg.)

Information gained through meetings with a wide variety of federal, state, and local officials and community based organization representatives were relied upon for these estimates. Questions were asked in these meetings regarding the number of jobs that could be created to meet public needs. When these questions provided sufficient information to give a clear indication of the number of jobs that could be created in cities of various sizes, the estimates that were derived represent the minimum or lower bound estimates of the job-creation potential. The 17 activities whose estimates were derived in this manner are, in almost every case, activities with a small (less than 10,000 jobs) job-creation potential. Although these estimates are very soft, the following examples show the appropriateness of using this method of estimation. The first example is fire prevention. No secondary sources of data exist that estimate the "excess implicit demand" or "labor input requirement" in fire prevention. However, meetings with local public officials provided sufficient information to indicate clearly that unmet needs exist and the potential for creating jobs is small but worthy of consideration. A second example where no adequate secondary sources of data exist is in the field of child abuse. Again, meetings with local officials, child welfare agency personnel and directors provided a clear indication that unmet needs exist and it is feasible to create jobs to help combat these needs. Estimates are provided on these two and 15 other areas where "soft minimum" estimates of the job-creation potential are derived from fieldwork.

The job-creation potential of these 17 activities were generated by assigning an "educated estimate" of the number of additional workers for each size of city for the specific activity under consideration.[1] Lower bound estimates were made of the job-creation potential in each of the specific public service and public works activities estimated based on fieldwork, in order to minimize the likelihood of overestimating the job-creation potential of any of these projects.

Although various methods were employed in estimating the job-creation potential in expanding public service and public works activities, there

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[1] Source: Municipal Yearbook, 1976.

Number of Cities	Population Size
936	10,000 - 24,999
395	25,000 - 49,999
189	50,000 - 99,999
72	100,000 - 249,999
24	250,000 - 499,999
16	500,000 - 999,999
4	Over 1,000,000

Source: National Association of Counties.

Number of Counties	Population Size
700	Over 10,000 but with no city that large
900	Less than 10,000

still remain a large number of activities for which plausible estimates of job-creation potential could not be provided. Due to the absence of adequate data from either secondary sources or AIR fieldwork, no estimates were made for 118 activities and they are not included in the aggregate estimate of 3 million jobs. Failure to provide estimates for over one-half of the 233 activities identified implies that the estimates of job-creation potential that follow may be biased downward by a substantial amount on this account.

The reasons for this failure to provide estimates for these activities varied. In some cases, information did not exist upon which any of the following could be determined: (1) excess implicit demand, (2) labor requirements per unit of service or public works activity, (3) costs of the activity, and (4) feasibility of expansion of a particular service or public works project. In other cases, information on one or more of these items was found but was judged to be insufficient for plausible estimates to be made.

Overview of Findings

Table 2.3 summarizes the number of activities identified, the number of activities by program area for which we were able to derive job-creation estimates, the job-creation potential, the skill mix, and the degree of labor intensity (percentage of total costs going directly to wages). Roughly three million jobs could be created by these 115 activities at a cost of $46 billion, while little is known about the number of jobs and associated costs that could result from expanding the remaining 118 job-creation projects that have been identified.

The number of jobs that could be created range from 1.2 million in the education program area at a cost of $13.0 billion to 10,000 jobs in expanding fire protection and prevention programs at a cost of $90 million. There is also considerable variation in the degreee of labor intensity, ranging from 88 percent direct wage expenditure in education to 28 percent in public works activities.

Most of the program areas include activities that use unskilled workers for upwards of 80 percent of the new positions.[1] The three areas requiring the highest percentage of unskilled workers is expansion of paraprofessional health care services (100 percent), community development programs (90 percent), and environmental programs (90 percent). The three areas requiring the lowest percentage of unskilled workers are housing rehabilitation (40 percent), education (40 percent), and public works activities (33 percent).

The job-creation projects with the greatest potential in the field of education are: (1) increasing the number of teachers to eliminate overcrowded classes by reducing class size to a maximum of 24 students per class (363,500 jobs), (2) increasing the number of classroom and teacher aides to a ratio of

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[1] Unskilled positions are defined as laborers and service workers. Notable exceptions to the finding reported in the text are the program areas for housing (11) and public works (12) in which only 40 and 33 percent of the respective labor demands required low-skill workers.

TABLE 2.3

JOB-CREATION POTENTIAL AND ASSOCIATED COSTS BY PROGRAM AREA

CODE	PROGRAM AREA	Total No. of Projects Identified	No. of Projects with Job-Creation Estimates	Total No. of Jobs Estimated* (thousands)	Total Cost (millions)	Percentage of Total Costs for Wages	Percentage Low-Skill Jobs**
01.	Community Development Related Services and Facilities	8	2	61.8	594.5	80	90
02 .	Criminal Justice, Correctional Facilities, and Public Safety	24	11	235.1	2,526.3	78	60
03.	Cultural Activities, Museums, and Public Libraries	9	1	50.0	400.0	80	60
04.	Education and School Related Activities (school bldgs., recreation and other programs in public schools, etc.)	27	15	1,223.8	13,240.9	88	40
05.	Energy Conservation and Production	5	3	38.9	568.7	50	75
06.	Environmental Programs	31	15	171.5	1,687.2	67	90
07.	Federal Government Staffing Increases	4	3	77.9	625.4	80	80
08.	Fire Protection and Prevention	4	2	10.8	90.4	81	80
09.	Food and Nutrition Oriented Activities	6	0	-	-	-	-
10.	Health Care	4	2	42.0	345.0	80	100
11.	Housing and Public Housing Related Activities	12	7	120.0	2,775.8	51	40
12.	Local Government-Supported Buildings and Public Works	37	37	448.9	18,429.7	28	33
13.	Local Government Administrative Staff (including CETA and ES)	6	0	-	-	-	-

TABLE 2.3 (continued)

CODE	PROGRAM AREA	Total No. of Projects Identified	No. of Projects with Job-Creation Estimates	Total No. of Jobs Estimated* (thousands)	Total Cost (millions)	Percentage of Total Costs for Wages	Percentage Low-Skill Jobs**
14.	Parks and Recreation	10	2	47.3	393.9	78	85
15.	Private (for profit) Sector Oriented Activities	4	1	6.8	72.1	74	90
16 .	Social Services - Children and Youth	7	5	166.8	1,388.8	84	88
17 .	Social Services - for the Elderly and/ or Mentally or Physically Handicapped	20	6	276.7	2,966.0	61	75
18 .	Social Services - General	7	3	23.2	218.0	78	95
19.	Social Services - Women	3	0	-	-	-	-
20.	Social Services - Other	1	0	-	-	-	-
21.	Transportation	4	0	-	-	-	-
	TOTAL	233	115	3,001.5	46,322.7		

*Total Number of Jobs Estimated is based on consideration of only those projects listed in Column 2 and not Total Number of Projects identified in each category.

**Includes unskilled laborers and service workers.

Source: American Institutes for Research fieldwork. For details, see Rubenstein (1978a).

one teacher aide for every five teachers (238,000 jobs), (3) increasing the number of teachers in special education classes for the handicapped (160,000 jobs), (4) increasing staff support for truancy follow-up and child counseling programs (113,000 jobs), and (5) expanding maintenance, repair and rehabilitation of public school buildings and grounds (64,000 jobs). In addition, increasing staff support for after school tutoring programs using peer tutorers, teacher's aides, the elderly, etc. could provide approximately 200,000 part-time jobs (two hours a day), or 50,000 full-time equivalent positions. These activities are highly labor intensive with the possible exception of maintenance, repair, and rehabilitation of public school buildings and grounds.

Wages account for 88 percent of the $13.2 billion dollars required to undertake these education activities. The skill mix required to expand these activities tends to be high. Only 40 percent of the 1.2 million jobs could be filled by unskilled workers. However, in expanding some activities, such as teacher's aides, after-school tutorers, and maintenance-type activities, low- and moderate-skill workers could fill most of the positions.

The program area that could create the second largest number of jobs is local government building construction and public works. Based, in large part, on the unfunded local public works applications during round II of the economic stimulus program of 1977, we estimate almost 450 thousand jobs could be created by the 39 projects identified in this area at a cost of 18.4 billion dollars. The largest projects in this program area were: (1) construction of schools, learning, or training facilities (81,000 jobs); (2) architectural barrier removal (63,900 jobs); and (3) construction of municipal offices, town halls, or court hourses (42,000 jobs).

It is interesting to note that, although education and school-related activities created the largest number of jobs, the projects identified by reviewing unfunded local applications in the area of local government building construction and public works would involve the largest total cost. The reason is that public works activities require relatively little labor. Only twenty-eight percent of the $18.4 total cost is needed for wages, the lowest percentage among all program areas. In addition, while these projects are not very labor intensive, they are relatively skill-intensive. Approximately two-thirds of the jobs require moderate or high skills, the highest proportion among all program areas.

The activity that could create the third largest number of jobs is "social services for the elderly and/or mentally or physically handicapped." Although we are able to provide job-creation estimates for only five of the 20 job-creation projects in this category, based on these five activities alone we estimate that over 275,000 jobs could be created. It is likely that our estimate of 275,000 jobs vastly understates the true job-creation potential in this area of social services.[1] The largest job-creation potential exists for (1) homemaker, long-term care, and escort services for the elderly and mentally or physically disabled (104,000 jobs), (2) meals on wheel programs (99,000 jobs), and (3) increasing staff support for sheltered workshops and vocational rehabilitation facilities (30,000 jobs). These activities would be moderately labor intensive, with roughly 60 percent of the $3 billion dollar budget going to wages. The jobs created could be filled with low- or moderate-skill workers. Ninety-five percent of the jobs created could be filled by low-skill workers.[2]

The fourth largest number of jobs would be created in criminal justice activities. Based, in large part, on the findings from the National Manpower Study of the Criminal Justice System, we estimate that at least 235,000 jobs could be created in expanding these activities. The major projects include (1) increasing the personnel in law enforcement agencies including police and sheriff departments (168,000 jobs), (2) increasing staff support for adult and juvenile correctional facilities (26,000 jobs), and (3) increasing staff support for parole and probation activities (16,000 jobs). These activities would be labor intensive with 78 percent of the $2.5 billion budget going to wages. However, the jobs would require a substantial amount of skill as approximately 40 percent of the jobs would require workers with professional skills.

The fifth largest number of jobs that we estimate could be created in an expanded public jobs program is 170,000 job opportunities in environmental programs. This estimate is based on only 16 of the 32 environmentally related activities. Thus, the true job-creation potential in this program area is likely to be much higher. The major projects include (1) timber stand improvements (44,000 jobs), (2) the monitoring of air quality (32,000 jobs), (3) labor-intensive recycling systems for glass, paper, aluminum and other materials (25,000 jobs), and (4) the survey of water supplies (24,000 jobs). These activities are only moderately labor intensive. Approximately two-thirds of the $1.7 billion budget would be spent on wages. However, the jobs created would be predominantly low-skill jobs (90 percent).

The activity that could create the sixth largest number of jobs is social services for youth and children. Our estimate of 165,000 jobs in this area is composed primarily of jobs that could be created in expanding publicly-supported day care services (139,000). The other youth oriented social services that could be expanded greatly are: (1) increasing staff support for Boy's/Girl's Associations and Drop-in Centers and Big Brother/Big Sister activities (15,000 jobs), and (2) increasing staff support for adoption agencies, child welfare departments, and foster care activities (13,000 jobs). These activities are very labor intensive and most of the positions created could be filled by low- or moderate-skill workers.

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[1] Due to lack of available data, we were not able to estimate the numbers of jobs that could be created to expand services for the blind or the deaf. Nor could we estimate the job-creation potential in increasing ancillary and day care staff support for residential and commuter centers for the retarded. These activities, we suspect, could create large numbers of meaningful jobs for the unemployed.

[2] Sheltered workshops are an exception to this finding; only 40 percent of the jobs created in these projects would be low-skill jobs.

The program area containing the seventh largest job-creation potential is housing and public housing related activities. Over 120,000 jobs could be created (annually) in expanding these activities. In the area of housing rehabilitation we estimate that 106,000 jobs could be created in each of the next 15 years. An additional 7,000 jobs could also be created by increasing the number of security guards for public housing projects. Other than security guards, these activities would not be very labor intensive and would require substantial numbers of high-skill workers.

No other general program area offers the potential for creating greater than 100,000 jobs. However, several specific activities could be expanded to create greater than 15,000 jobs and are worthy of mention in this summary. These include (1) expanding the U.S. Cooperative Extension Service (75,000 jobs), (2) increasing community clean-up, beautification, and litter removal (57,000 jobs), (3) increasing paraprofessional staff support for community health centers (24,000 jobs), and (4) preventive health screening services, follow-up and referrals (18,000 jobs).

This section has attempted to summarize estimates of the job-creation potential and costs of a set of activities identified as capable of providing new or additional public service or public works projects. Since these estimates do not include any information regarding the job-creation potential of 118 out of the 233 activities we have identified, they should be considered lower bound, or conservative, estimates of the job-creation potential and associated costs of large-scale public job-creation programs. However, several key assumptions implicit in our model operate to bias our estimates of potential job-creation upward and bias our estimates of potential costs downward. In particular, we assume that the activities must be expanded until excess implicit demand is eliminated. This can obviously produce a generous estimate of potential job-creation. A more reasonable assumption, particularly relevant in activities with rising marginal cost curves and declining marginal benefit curves, would be one in which the activity is expanded to the level at which marginal benefits equal marginal costs. Unfortunately, the state of the art in estimating potential job-creation does not permit us to make such an assumption because information on these marginal benefits and costs are not readily available.

Eleven of the 21 major activity areas identified could be considered labor intensive in that at least 70 percent of their total costs consist of labor costs. Similarly, eleven of the 21 major activity areas could be considered "low-skill" activities in that over 70 percent of the slots can be filled with unskilled laborers or service workers, occupations that pay the lowest average wages of all the major occupation groups.

Detailed Findings

Now we turn to a detailed discussion of our findings of the job-creation potential in each of the 21 program areas considered appropriate for expansion under a public employment program. Details on costs, skill mix, and annual wage rates by skill can be found for each activity in Appendix IIB. We begin with an analysis of potential "Criminal Justice" public employment projects.

Criminal Justice, Correctional Facilities, and Public Safety. We identified 24 activities in the field of criminal justice. Secondary data sources were available to derive job-creation estimates for 11 of these. Suitable data were not available for the other activities. Table 2.4 lists all potential criminal justice job-creation programs and includes the numbers of jobs that we estimate could be created in expanding each activity.[1]

The criminal justice activities identified as viable job-creation candidates were located in police and sheriff departments, parole and probational activities, correctional institutions (adult and juvenile), the state and local courts, and crime prevention activities such as educational programs and property identification services.

The largest activity for which estimates were possible were in local and county police and sheriff departments. The National Planning Association (NPA) study estimated a shortage of approximately 168,000 primary and support staff personnel. Estimating the skill mix and training required to fill these positions with a high degree of certainty will require further research. However, based on limited data, we estimate that (1) approximately 40 percent of the positions will require persons with professional skills, (2) 40 percent will require persons with clerical or other similar skills to fill staff support positions, (3) 10 percent of the positions will require persons with managerial skills (supervisors) and (4) the remaining 10 percent will require persons with the skills of an operative (driver, machine operator, etc.). The total cost of expanding this activity in this manner would be somewhere in the range of $1,860 million with approximately $1,430 million going directly to wages, and $430 million divided roughly equally between administrative support costs and materials, supplies, and equipment costs.

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[1] The job-creation estimates are largely based on a recent study conducted by the National Planning Association for the Law Enforcement Assistance Administration. The three year study, The National Manpower Study of the Criminal Justice System, (June 1977) conducted several thousand interviews with state, local, and federal criminal justice officials requesting specific information on current and "needed" work force levels. Their analysis of the shortages of needed personnel is based, in large part, on data from these interviews which included responses to questions concerning "the percentage increase of employees that would be required" to meet minimum satisfactory levels as perceived by these state, local, and federal officials.

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TABLE 2.4

ACTIVITIES IDENTIFIED IN CRIMINAL JUSTICE, CORRECTIONAL FACILITIES, AND PUBLIC SAFETY AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Parole and Probation Activities, Satellite (Community) Probation Offices, and Youth Offender Counseling	16,000
Staff Support for "Aid to Victims of Crime Centers" that provide emergency residential services, counseling, and legal advice to victims of recurring crimes such as child abuse, wife battering, etc.	No estimate
Facilities for "Aid to Victims of Crime Centers"	No estimate
Staff Support to Improve the Court Process providing clerical help, delivering of subpoenae, notification of witnesses and attorneys of changes in time, date or place of court proceedings	8,000
Day Care Staff Support to Supervise Children Visitng Correctional Facilities	No estimate
Staff Support for Half-Way Houses for Juvenile Offenders, Adolescents with Drug Related Problems, etc.	No estimate
Staff Support for Recreation Programs in Correctional Facilities	3,200
Staff Support for Library and Education Programs in Correctional Facilities	3,200
Staff Support for Job Development, Placement, and Counseling Services for Inmates of Correctional Institutions, Youth Offenders, and Adults on Probation	No estimate
Staff Support for Health Services in Correctional Institutions	3,200
Expand, Renovate, Rehabilitate, and Maintenance Work on Correctional Facilities	No estimate
Expand, Renovate, Rehabilitate, and Maintnenace Work on Half-Way Houses	No estimate

TABLE 2.4
(continued)

Activity	Job-Creation Potential
Staff Support for Police - Community Relations Programs	No estimate
Staff Support for Volunteer Coordinators linking correctional facilities, half-way houses, etc., with community organizations	No estimate
Staff Support for Public Defender Offices and Legal Aid Societies	2,000
Staff Support for Court - School - Foster Home Liaison Activities	No estimate
Staff Support to Develop and Supervise Work-Release Activities for Correctional Institution Inmates to do voluntary or paid public service related activities for community groups	No estimate
Staff Support for Coordination of Neighborhood Volunteer Citizen Patrols	No estimate
Staff Support for Law Enforcement Agencies, Police and Sheriff Departments Including Dispatch Operators, Commercial Security Aides, Field Aides, etc.	168,000
Custodial Staff Support for Correctional Facilities	10,430
Staff Support for Property Identification Programs	3,500
Staff Support for Crime Prevention and Education Programs and Counseling for Businesses and Local Citizens	11,580
Staff Support for Drug Abuse Information and Education	No estimate
Staff Support for Juvenile Correctional Facilities	6,000

Sources: See text.

The NPA study also estimates a shortage of 16,000 parole and probation officers and paraprofessional aides. Based on our interviews with local parole and probation officials, we estimate that approximately 40 percent of the positions would require persons with professional skills, while the other 60 percent of the positions would necessitate either clerical skills or could be filled with low-skill paraprofessionals. For the paraprofessional aides, some on-the-job training would provide opportunities for those without substantial skills to be eligible for these positions. Expansion of these activities will cost approximately $155 million with approximately $130 million going directly for wages, $19 million for administrative costs, and $6 million for materials, supplies, and equipment costs.

Another activity where jobs could be created in the criminal justice area is expanding services in adult and juvenile correctional facilities.[1] In adult correctional facilities there exists the need for additional custodial staff support, health care personnel, library and educational staff support, and recreational teachers and supervisors. The NPA study estimates a shortage of approximately 26,000 persons in this area. Field visits with correction officials, conducted as part of this study, tentatively indicate that approximately one-half of these jobs would be for custodial staff support with the other 10,000 jobs divided equally among health care personnel (mainly LVN's), library and education staff, and recreation aides and supervisors. In juvenile facilities, the NPA study estimates a shortage of 6,000 workers to provide treatment and day care services.

The skill mix required will vary for each type of activity. Some persons with professional and managerial skills will be required especially in the health and education programs. However, clerical and other moderate- or low-skill persons will be able to fill a majority of the positions that could be created in adult and juvenile corrections facilities.

We estimate that the cost of creating these service jobs in adult and juvenile correctional facilities would be approximately $255 million with slightly more than $206 million going directly to wages. Administrative costs are estimated to be approximately $32 million with the remaining $17 million for materials, supplies, and equipment.

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[1] This discussion does not include any analysis of the need or job-creation potential in building, renovating or expanding correctional facilities. These "public works" activities are discussed later in the section on "local government buildings and public works." The discussion here is limited to expansion of services for inmates.

The NPA study cites a shortage of 10,000 persons in the court system and public defender's agencies with 8,000 additional workers needed in the court system and 2,000 additional workers needed in public defender's agencies. Roughly 70 percent of these persons would require professional skills while most of the other additional positions would require substantial clerical skills.

The cost of creating these 10,000 jobs in court-related jobs would be approximately $117 million. Slightly less than $100 million would go directly to wages while approximately $14 million would be required for administrative support and $5 million would cover the costs of materials, supplies, and equipment.

A final criminal justice activity is crime prevention programs other than regular police activities. The two specific programs that make up this category are "crime prevention education" (security surveys, etc.) and property identification. Secondary data sources do not provide reliable estimates of the excess implicit demand or labor input requirements necessary to expand these activities. However, based on field interviews with local criminal justice officials including interviews with police chiefs, directors of departments of public safety, citizens' crime prevention and police-community relations organizations, and others, we estimate that a crime prevention educational program (of 1 or 2 years duration) could create approximately 11,000 jobs.[1] We also estimate that property identification programs could employ an additional 3,000. These programs can be expanded using primarily low-skill workers with some professional persons required to provide supervision and on-the-job training. These programs would be very labor intensive with approximately $130 million of the total estimated cost of $145 million going directly to wages.

These 11 program areas in the criminal justice system are capable of generating 235,000 jobs. The remaining 13 program areas could provide additional employment opportunities, but data are not currently available to provide even rough estimates of their job-creation potential.

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[1] In deriving these estimates, it was assumed that the need for additional workers varied with the size of the population served. Total population was used as a proxy for universe of need. Based on information provided by local criminal justice officials during the course of our field visits, we assumed the following job-requirements by size of place:

	Job-Requirements per Place	
Size of Place-City	Crime Prevention Education	Property Identification
10,000 - 24,999	2	1
25,000 - 49,999	4	1
50,000 - 99,999	8	2
100,000 - 249,999	20	5
250,000 - 499,999	40	10
500,000 - 999,999	80	20
1,000,000 or more	100	30

Cultural Activities, Museums and Public Libraries. We identified 15 activities in this program area, six of which were aggregated into the first activity described in Table 2.5 in order to derive estimates of potential job-creation. This activity consists of staff support for museums, neighborhood arts councils, children's theatres, community dance groups and classes, community choir, jazz or opera groups and lessons, and community symphonies. We estimate that 50,000 jobs could be created in this activity.[1] The cost of creating these 50,000 jobs would be approximately $400 million with $320 million for wages, approximately $50 million for administrative support costs, and roughly $30 million for materials, supplies, and equipment.

We were not able to estimate the job-creation potential for the eight other culturally-oriented activities which we have identified as viable candidates for expansion under a public employment program.

Education- and School-Related Activities. The program area with the largest estimated job-creation potential is education. These activities can be classified into three categories: expansion of regular elementary and secondary school activities; special education programs for the handicapped; and adult education programs.[2] Table 2.6 shows the 27 activities that constitute these categories. Estimates of job-creation potential and costs were derived for 15 of these activities. We estimated that 1.2 million jobs could be created by expanding these 15 educational activities.

The largest number of jobs could be created by eliminating overcrowded classes. We estimate that 363,500 new teaching jobs could be created by this activity.[3]

The definition of "overcrowded" was one provided by the National Education Association. NEA defines elementary school classes in excess of 24 students

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[1] This was done to make the activities compatible with information from a recent study by the New England Foundation for the Arts. Sponsored by the Department of Labor in 1977 (Office of the Assistant Secretary for Policy Evaluation and Research, November 1977), the study surveyed directors of neighborhood arts councils, museum directors, and members of the New England Foundation for the Arts in the six New England states. From their survey, the Foundation estimated that, at a minimum, 1,000 jobs per state could be created in expanding cultural activities. We assumed that a similar minimum number also applies to states in other regions of the country.

[2] Details regarding: (1) the number of jobs, total wage, materials, and administration costs; (2) skill levels required to expand these activities; and (3) estimated wage rates for each skill level are provided in Appendix IIB.

[3] This estimate is based on a study conducted by the National Education Association's Office of Research. (Teacher Supply and Demand in Public Schools, 1976, NEA Research Memo, 1977.) NEA conducted a survey of public schools in 1976 in order to estimate the number of classes in elementary schools that were overcrowded (class size exceeding 24 pupils) and the number of secondary school teachers with pupil loads in excess of 124 students. Based on its study, NEA estimated that 363,500 additional teachers would be required.

TABLE 2.5

ACTIVITIES IDENTIFIED IN CULTURAL PROGRAMS, MUSEUMS, AND PUBLIC LIBRARIES AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Community Theatres and Theatrical Education; Children's Theatres; Community Dance Groups and Classes; Community Choir, Jazz, or Opera Groups, Lessons; Community Symphonies and Musical Training; and Museums and Neighborhood Arts Councils	50,000
Staff Support for Community Craft Shops and Painting Studios	No estimate
Cultural and Heritage Education Programs	No estimate
Staff Support for Public Libraries	No estimate
Staff Support for Bookmobiles and Extension of Public Libraries into Rural Areas, Hospitals, Nursing Homes, etc.	No estimate
Commission of Murals and Sculptures in Public Buildings and in Public Places	No estimate
Community History Projects	No estimate
Library Archival Research on Local Residents' Family Roots	No estimate
Art Education in Public Schools, through use of the media, etc.	No estimate

Sources: See text.

TABLE 2.6

ACTIVITIES IDENTIFIED IN EDUCATION AND SCHOOL-RELATED PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Early Detection of Reading and Learning Disabilities in Elementary Schools	15,770
Classroom and Teacher Aides including bilingual aides, music aides, aides for educationally handicapped classes, etc.	237,870
Staff Support to Expand Work-Study Activities in Public Schools	6,000
Staff Support to Expand Vocational Education in Public Schools	21,110
Staff Support to Increase Field Trip Opportunities	No estimate
Staff Support for School Library Operations During School Year	48,430
Staff Support for School Library Operations During Summer	No estimate
Staff Support to Provide Free or Low-Cost Summer School Educational Opportunities for Children, Youth, and Adults with Reading or Learning Disabilities	No estimate
Staff Support to Expand Adult Educational Services and Training for the G.E.D. (High School Equivalency) Examination and Right to Read Program	40,000
Staff Support to Expand Bilingual Educational Services in Regular Public School Curriculae, Vocational Education Programs, and Adult Education Classes	5,920
Staff Support for Organized and Supervised Recreation Programs in Elementary and Secondary Schools During and After School	No estimate
Staff Support for Increasing Course Offerings in Public Schools	No estimate

TABLE 2.6
(continued)

Activity	Job-Creation Potential
Maintenance, Repair and Rehabilitation of Public School Buildings and Grounds	64,400
School Security Guards and Hall Monitors	81,490
Clerical Staff for Microfilming and General Support	No estimate
Staff Support to Supervise after School Extra-curricular Activities	No estimate
Staff Support for Parent-Teacher Associations	No estimate
Staff Support for Truancy Follow-up and Child Counseling Programs	113,690
Staff Support for after School Tutoring Programs using peer tutorers, teacher's aides, and the elderly, etc.	50,590
Staff Supprot for Community Colleges, Other Public Colleges and Universities	No estimate
Expand Number of Teachers to Achieve Better Teacher-Student Ratio	363,500
Staff Support for Skill Training and Other Vocational Training Centers	No estimate
Staff Support for Educational Opportunities for Ex-Offenders	2,000
Staff Support for Public Television Educational Programs	No estimate
New School Construction	No estimate
Increase Number of Teachers in Special Education Classes for the Handicapped	160,000
Expand Number of Teachers for Kindergarten and Nursery School	13,000

Sources: See text.

and teacher loads in high schools in excess of 124 as "overcrowded." Presumably, NEA assumes that reducing these class sizes and ratios will provide either more (or a better quality of) schooling. However, even if this assumption is valid, it does not necessarily imply that these numerical objectives would be optimal. Lowering class size and/or reducing student-teacher ratios are activities purchased at some cost. It is not obvious that the additional benefits to be derived would be worth the additional cost. Moreover, it is not clear that NEA, an organization that primarily represents the interests of teachers, would be the most objective of authorities on this subject. Other perhaps more objective researchers might find larger class sizes and student-teacher ratios to be optimal.

The costs of reducing the overcrowded classes in our public schools would be approximately $4.25 billion. Slightly less than $3.5 billion would be for wages; administrative costs would be approximately $0.5 billion; and materials, supplies, and equipment costs would cost nearly $0.35 billion.

The second largest activity identified was expanding the number of teacher's aides. The National Education Association estimates there are currently 225,000 teacher's aides employed in elementary and secondary schools. Assuming a goal of 1 teacher's aide for each 5 teachers, it would require an additional 238,000 teacher's aides to attain this goal.[1]

This activity would be one of the most labor intensive and least costly. The skill levels required to be teacher's aides can be low given adequate supervision and on-the-job training is provided. The cost would be approximately $1.6 billion, with $1.4 billion for wages, approximately $0.15 billion for administrative support, and roughly $0.7 billion for materials, supplies, and equipment.

A third major activity identified was truancy and counseling programs. Elementary and secondary public schools often call the home of an absent student. However, most schools do not have the personnel necessary to follow up these calls with home visits, problem-identification and the counseling which may be required to combat the problems of truancy (or absenteeism) that schools are currently experiencing. The NEA research office, in response to a direct query on the subject for this study, estimates that an additional 113,000 persons could be employed in this area.[1]

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[1] The goal of one teacher aide for every five teachers is a National Education Association objective and must be taken with a grain of salt. Presumably, attainment of such a goal should increase the effectiveness of educational inputs by improving student performance. However, this enhanced effectiveness would be purchased at some additional cost. Obviously, NEA, an organization that primarily represents the interests of teachers, cannot be considered the most objective of authorities on the subject of whether this enhanced effectiveness is worth the additional costs. Other, perhaps more objective, researchers might find that a higher ratio would be optimal.

Approximately 90 percent of these positions would require persons with professional skills while the remaining 10 percent of the positions would require clerical skills. The total cost of expanding this activity in this manner is approximately $1.5 billion. Slightly over $1 billion would go directly to wages, while approximately $0.45 billion would, in roughly equal amounts, be for administrative costs and the costs of materials, supplies, and equipment.

Another major activity identified is the hiring of additional school security guards and hall monitors. The NEA estiamted the need for an additional 81,000 school security guards and hall monitors.[2]

This activity could utilize low- and moderate-skill workers and would be very labor intensive with approximately $640 million of the total cost of $760 million going directly to wages.

Another major activity identified is maintenance, repair, and rehabilitation of public schools. We estimate that over 64,000 jobs could be created in this activity, with low-skill custodians and laborers filling most of these

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1. The four types of job functions needed to create an effective truancy and counseling program include secretarial support, guidance counselors, social workers, and nurses (LVN's) since much absenteeism is health related. At present there are 72,000 guidance counselors and related personnel. However, NEA's research staff assumed that 9 such personnel are needed for schools with over 100 teachers; 8 persons in schools of 80-99 teachers; 6 persons in schools of 60-79 teachers; 4.5 persons in schools of 40-59 teachers; 2.75 persons in schools of 30-39 teachers; 1.75 persons in schools of 20-29 teachers; and an average of 1 person for schools from 1-19 teachers. Using these assumptions NEA estimated the need for an additional 113,000 persons employed in an expanded truancy and counseling program. As noted in the preceding footnote, these assumptions are open to question.

2. The estimates of the job creation potential provided by the National Education Association are based on the following assumptions. There exists the need for 5 guard personnel (guards and monitors) to work in schools with greater than 120 teachers; 4.5 guard personnel (on average) for schools with 100-119 teachers; 3 guard personnel for schools with 80-99 teachers; 2.5 guards (on average) for schools with 40-79 teachers; 1 guard for schools with 20-39 teachers, and 0.5 guard for schools with 10-19 teachers. For schools with less than 10 teachers, it is assumed there would be no need for security guards or monitors.

positions.[1] The total cost of expanding this activity was impossible to estimate with any degree of certainty. In deriving cost estimates, theefore, it was assumed that administrative costs would be approximately 10 percent of the total wage costs while materials, supplies, and equipment costs would be roughly 50 percent of the total wage bill. With these assumptions the total cost of creating 64,000 jobs in maintenance, repair, and rehabilitation of public school buildings and grounds would be approximately $750 million with slightly more than $475 million of that going directly to wages.

There are several other activities in our elementary and secondary public schools that could be expanded to meet public needs. The NEA research staff, in response to a direct query by this study, reported that a total work force of 248,000 librarians, clerks, and support staff would be required to meet the American Library Association standards.[2] At present only 55,000 persons are currently employed in public school libraries. Although it is not feasible to hire an additional 193,000 persons to work in this area, NEA research staff assumed that 25 percent of the positions or approximately 48,000 jobs could be created.[3]

The skills required to fill these positions would include roughly equal numbers of librarians with professional skills and support personnel with clerical skills. It is estimated that the total cost of expanding this activity could be approximately $700 million with slightly more than $400 million for wages, approximately $80 million for administrative costs and just over $200 million for materials, supplies, and equipment costs.[1]

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[1] In order to meet the need for maintenance repair, and minor rehabilitation of public school buildings and grounds, NEA estimates that in large schools with over 120 teachers, 5 persons are needed; in schools with 80-119 teachers, 4 persons are needed; in schools with 40-79 teachers, 3 persons are needed; in schools with 30-39 teachers, 2 persons are needed, and in schools with less than 30 teachers, 1 person is needed on the average to perform this function. Of course, some of this need is currently being met. Although data do not exist to determine exactly how much of the need is being met, it was assumed that one-half of this need was being met.

[2] The American Library Association (ALA) has set "standards" that represent what it considers to be the appropriate number of library support personnel for public schools. These standards are based on the number of students enrolled in each public school and are published annually by ALA. They were made available to this study by the National Education Association.

[3] The NEA research staff, in response to a direct query on the subject by this study, gave several reasons why it is currently not feasible to create the large number of positions necessary to meet the ALA standards. Among the reasons cited by NEA for not being able to create all of these jobs rapidly include: (1) many schools do not have the physical library facilities to justify this increase in staff and (2) there are not sufficient numbers of skilled librarians to fill these positions.

Since the potential job-creation figure of 48,000 is based on an assumption by NEA of a 25 percent "gap" between the current work force level and the ALA standard, this estimate must be considered soft. This assumption is not based on a rigorous analysis of the feasibility of expansion of library activities in public schools, but rather represents the judgments of persons who work for the National Education Association and the American Library Association.

Several other education activities are viable candidates for expansion to meet public needs. NEA's research office estimates that 20,000 jobs could be created in vocational education,[2] while 13,000 jobs would be created if we expanded kindergarten to serve as many children as currently served by first grade.[3] In addition, NEA estimates that 6,000 persons could be employed immediately to help meet the need for expanded bilingual teaching programs.[4] The U.S. Office of Education estimates that 6,000 jobs could also be created to meet needs for additional work-study programs.[5] Each of these activities would require high percentages of workers with professional and clerical skills and would be fairly labor intensive.

All education-related job-creation efforts need not be full-time positions. There also exists the potential to create part-time jobs for teachers and paraprofessionals. Our field interviews revealed that educators believe that one of the sources of the "youth problems" was the lack of an organized activity immediately after school. In order to estimate the job-creation potential in after-school tutoring, it was assumed that each tutor works two hours a day (from 3:30-5:30 p.m., for example). Based on meetings with local school officials and the NEA research staff, we estimate that 200,000 persons could be employed on a part-time basis to provide this needed service. This would total approximately 50,000 person-years of work.[1] The activity could be staffed with teacher's aides since much of the time spent would probably be of a study hall nature where students work primarily with one another. This program would be very labor intensive with over $300 million of the total estimated cost of $360 million for wages.

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[1] The total cost of expanding this activity is impossible to estimate reliably since the required purchase of books, equipment, and supplies will vary radically among different schools. The estimate of the costs presented here is based on the judgments of members of the NEA research staff and AIR, and, therefore, should be treated cautiously.

[2] NEA estimated that in school districts with an enrollment of 25,000 or more--9 additional teachers are needed. In districts with 10,000-24,999--6 additional teachers are needed. In districts with 5,000-9,999 pupils--4 additional teachers are needed. In districts with 1,000-4,999 pupils--2 additional teachers are needed. The research staff determined that in smaller districts there is insufficient demand to add vocational education programs and teachers.

[3] Teacher Supply and Demand in Public Schools, 1976. NEA Research Memo, 1977.

[4] The figure is based on NEA's estimate that 3 additional teachers are required on the average for school districts with an enrollment in excess of 25,000 pupils; 2 additional teachers are required for districts with 10,000-25,000 pupils; and approximately 1.5 additional teachers on the average are needed in school districts with 2,500-9,999 pupils. NEA research staff determined that for school districts of less than 2,500 pupils there is not sufficient demand to warrant additional bilingual teachers.

[5] The Office of Education interviewed public education administrators in 5 states and two regional offices as part of this study. Based on its survey, it estimates that 600 jobs could be created in expanding work-study programs in each of the 5 states surveyed. Extrapolating this estimate to a nationally aggregated level, it estimates that 6,000 jobs could be created in expanding this activity.

Two areas where large-scale expansion is needed to meet public needs for education are in special and adult education classes. NEA's research staff, based on information provided by the U.S. Office of Education, estimates that, in addition to those currently being served, 3.5 million retarded children could be receiving special education. Assuming a pupil to teacher ratio of 1:24, there is a poten-tial for creating 160,000 jobs in special education classes.[2] In addition, NEA estimates that over 16,000 jobs could be created in expanding the early detection of reading and learning disabilities in public schools. The skills required in the positions created by expanding these activities would be primarily professional.

Adult education could also be expanded to create substantial numbers of jobs. The U.S. Office of Education, in response to a direct query by this study, estimates that 40,000 jobs could be created in one year to expand this activity while NEA estimates that an additional 2,000 jobs could be created to provide educational opportunities for ex-offenders. Again, professionals would be required for most of the jobs created and, like most of the educational activities discussed here, these would be very labor intensive.

We identified 27 educational and related activities that could be engaged in. Of these, we were able to estimate potential job-creation and costs for 15. These 15 activities could generate approximately 1.2 million jobs. However, these estimates should be treated with caution. They are based largely

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1. First, it was assumed that each person employed in such an activity would work 2 hours a day. Thus, the number of full-time positions created--50,600 is actually only one-fourth of the number of people who could be employed on a part-time basis to provide this needed service. Second, it was assumed that the class size for after-school tutoring would be 1 teacher for every 10 students. The NEA research staff assumes that 14 tutors could be used in each of the largest schools (120 or more teachers); 10 tutors in each of the schools with 100-119 teachers; 9 tutors in each school with 80-99 teachers; 7 tutors in each school with 60-79 teachers; 5 tutors in each school with 40-59 teachers; 3 tutors in schools with 30-39 teachers; 2 tutors in schools with 20-29 teachers; and 1 tutor in the schools with less than 20 teachers.

2. A report by the U.S. Office of Education, (Bureau of Education for the Handicapped, 1976), states that over 150,000 mentally retarded children, over 1,700,000 children with learning disabilities, and over 260,000 children who are hard of hearing are not enrolled in special education in the public school they attend. NEA alleges that special education classes are needed by more than 3.5 million children. Assuming a class size of 24 pupils per class it derives its estimate of 160,000 teachers needed in this area Teacher Supply and Demand, 1976. NEA Research Memo, 1977.

on inputs provided by the National Education Association, an organization that primarily represents the interests of the education establishment, and are, therefore, considered "soft." A number of assumptions underlying these inputs--particularly their implicit assumption about the value of reducing class size and student-teacher ratios and their estimates of various labor requirements--are open to question. Other, perhaps more objective, analysts might have provided this study with inputs leading to lower estimates of job-creation than the ones reported here.

Energy Conservation. We identified 5 activities in the area of energy conservation. Rough estimates of job-creation potential and costs were possible for three of these activities (see Table 2.7).

The first--home-related construction activities--is actually three activities combined. The three include: (1) stopping infiltration of cold air through elimination of large cracks, broken windows, etc.; (2) weatherization--the rehabilitation and insulation of energy inefficient housing to stop infiltration; and (3) combining weatherization and installation of solar-heated hot water systems in low rise public housing units. The job-creation potential and associated cost estimates are based on a recent program planning document prepared by the Community Services Administration (CSA).

CSA estimates that it would require 20,000 workers to reduce infiltration of cold air in the 2 million homes owned by the poor. These workers would form 5,000 work crews consisting of one skilled craftsworker and 3 low-skill laborers in each crew.

CSA estimates that the second project--weatherization--could create an additional 6,000 jobs and weatherize 150,000 houses. There would be 1,500 work crews of 4 persons each with one skilled craftsworker and three laborers.

CSA estimates that the third project--weatherization and solar hot water heater installation for low rise public housing units--could create an additional 2,000 jobs with a skill mix similar to the projects discussed above.

The total costs of these three energy saving activities would be approximately $470 million; nearly $215 million for wages, nearly $30 million for administrative support costs, and almost $230 million for materials, supplies, and equipment.

There are two other energy conservation projects for which we have derived job-creation estimates. We estimate that 5,600 jobs could be created in conducting studies of energy waste and monitoring energy use practices in public buildings. In addition, we estimate that 5,300 jobs could be created in the expansion of door-to-door energy conservation counseling in businesses, homes,

TABLE 2.7

ACTIVITIES IDENTIFIED IN ENERGY CONSERVATION AND PRODUCTION AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Home Related Construction Activities (i.e., insulation, winterization and weatherization)	28,000
Solar Energy Research, Development, and Construction Activities	No estimate
Staff Support for Home Heating Fuel Cooperatives	No estimate
Commission of Studies of Energy Waste in Public Buildings with additional follow-up for continuous monitoring of energy use practices in public buildings	5,630
Staff Support for Outreach (Door to Door) Counseling in Businesses, Homes, Schools, etc., on Energy Conservation	5,300

Sources: See text.

schools, etc.[1] The skill mix required include some professional skills for supervision and training. However, roughly two-thirds of these 11,000 positions could be filled with low-skill persons who would be given on-the-job training. The total cost of expanding these activities in this manner would be slightly over $100 million with approximately $75 million for wages.

Thus, at a minimum, 35,000 jobs can be created in expanding energy conservation activities. The relative newness of these activities and the resultant paucity of research on them suggests that these estimates should be considered very tentative and that these findings should be treated with extreme caution.

Environmental Progams. We identified 31 environmentally oriented activities as potential candidates for public job-creation (Table 2.8). Suitable data were available to estimate the job-creation potential and costs for only 16 of these activities.

Among these, the largest was the establishment of new and the expansion of ongoing labor intensive recycling systems for glass, paper, aluminum, and other materials. This activity is capable of generating 25,000 jobs. The Environmental Protection Agency (EPA) estimates that an average of 50 jobs could be created in each of the 500 largest metropolitan areas in the country to expand or create new recycling programs. EPA estimates that 15 percent of these jobs would require professional skills, 10 percent would require managerial skills, 5 percent would require clerical skills, and 10 percent of the jobs would be for drivers, machinists, and operatives. The bulk of the jobs, 60 percent, could be filled by low-skill laborers. The total estimated cost of creating 25,000 jobs in recycling would be approximately $400 million with

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[1] These estimates are based on interviews with officials in the Environmental Protection Agency, the Department of Interior, and at the local level. It was assumed that job-creation potential would vary with the universe of need, proxied by total population, and size of place. The relationship between job-creation potential and size of place is given below:

	Job-Requirements per Place	
Size of Place-City	Study of Energy Waste	Staff Support, Energy Counseling
10,000 - 24,999	1	0.5
25,000 - 49,999	2	2.0
50,000 - 99,999	4	4.0
100,000 - 249,999	12	6.0
250,000 - 499,999	24	10.0
500,000 - 999,999	48	20.0
1,000,000 or more	60	30.0

In addition, it was assumed that 1 full-time position would be required for studies of energy waste in counties with population of 10,000 or more with no city; it was also assumed that 2 full-time positions would be required in these counties for staff support activities related to energy counseling and that 1 full-time position would be required for this activity in counties with population of less than 10,000.

TABLE 2.8

ACTIVITIES IDENTIFIED IN ENVIRONMENTAL PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Labor Intensive Recycling Systems for Glass, Paper, Aluminum and Other Materials	25,000
Reforestation of Strip Mined Areas	No estimate
Protection of Endangered Plants and Animals, Fish and Game Research	No estimate
Water Storage Improvements	No estimate
Sewerage Treatment Facility Improvements	No estimate
Mosquito Control - Inspection and Spraying of Roadsides and Breeding Grounds, Houses and Public Bldgs.	6,300
Rodent Control - Inspection and Treatment of Roadsides and Breeding Grounds, Houses and Public Bldgs.	4,300
Staff Support for Nature Centers	No estimate
Distribution and Installation of Water Conservation Kits Including Conservation Counseling (Outreach)	No estimate
Hazrdous Materials Surveys	5,000
Animal Control (i.e., stray dog pick-up, etc.)	7,400
Staff Support for Local Humane Societies	No estimate
Staff Support to Monitor Air Quality	32,000
Staff Support to Monitor Noise Level	No estimate
Staff Support to Monitor Water Quality, Discharge of Effluents	No estimate
Staff Support to Survey Water Supplies	24,000
Mapping of Water Mains, Sewerage Connections, etc.	No estimate
Tree Related Disease Control Activities	No estimate
Conduct Environmental Impact Studies	No estimate

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TABLE 2.8
(continued)

Activity	Job-Creation Potential
Layout, Survey, Construction of Soil Conservation Practices	1,200
Site Preparation, Seeding of Eroding Roadsides	15,000
Stream Channel clearance	1,000
Flood Control Structure Maintenance	1,500
Timber Stand Improvements on Public Land	11,000
Timber Stand Improvements on Privately Owned (Non-Corporately Held) Land	33,000
Staff Support for Citizen Participation Process for Environmental Programs Including the Resource Conservation and Recovery Act of 1976	2,300
Staff Support for Inventory of Solid Waste Open Dumping Areas, Record-keeping and Clerical Support for the Resource Conservation and Recovery Act of 1976	2,500
Conduct Idle Emissions Inspections of In-use Vechicles	No estimate
Conduct Tampering Surveys on Air Pollution Equipment in Inspection Systems for Cars and Trucks	No estimate
Sample from Retail Gasoline Stations and Have These Samples Analyzed for Lead, Octane, and MMT Content	No estimate
Survey and Inspect New Vehicle Dealerships for Compliance with the Fuel Economy Labeling Requirements	No estimate

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Sources: See text.

slightly less than $200 million for wages. Administrative costs are estimated to be approximately $20 million while materials, supplies, and equiment costs would be $190 million.

Another major activity is the monitoring of our air quality. Citing an unpublished study by the National Field Research Center, Inc., EPA states that there are approximately 1,500 stationary air quality stations and 1,500 portable monitoring stations. It estimates that an additional 32,000 workers could be employed effectively in these facilities.[1] Roughly 5 percent of these additional positions would require professional and supervisory workers, while the remaining 95 percent of these positions could be filled with low-skill workers who would receive on-the-job training and supervision from the more skilled and experienced workers. The total cost of expanding this activity in would be approximately $225 million with almost $200 million for wages. Nearly $20 million be required for administrative support costs and approximately $10 million for materials, supplies, and equipment costs.

In addition, there are a variety of programs mandated by the Resource Conservation and Recovery Act which have not been carried out to the full extent of the law. EPA estimates that 24,000 jobs could be created in surveying the 600,000 water supplies which must be inspected under the law, 5,000 jobs would be required to meet the law's requirement for monitoring the transportation and disposal of hazardous materials, and over 2,200 jobs would be required to expand citizens' participation in the decison-making process in environmental program activities.[2] Each of these activities could be expanded with a small professional staff serving as supervisors and providing on-the-job training. A large majority of these new positions could be filled by low-skill workers. These activities would be very labor intensive with a high percentage (roughly 80) of total costs going directly to wages.

Soil conservation activities is another major environmental activity. There exists a large backlog of unfunded soil conservation project applications. Analysis of these unfunded applications, conducted by the National Association of Conservation Districts for this study, reveals that approximately 30,000 jobs could be created in the following areas: (1) Layout, Survey, Construction of Conservation Practices (1,200 jobs); (2) Site Preparation and Seeding of Eroding Roadsides (15,000 jobs); (3) Stream Channel

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[1] This estimate of the job-creation potential was acquired from the recent DOL study of the job-creation possibilities for low-wage workers through welfare reform. However, the reliability of this estimate is open to question since the methods and assumptions used by the National Field Research Center, Inc. in deriving this estimates are not available to this study for evaluation. Though these estimates were based on a previous study, they must be treated with some caution.

[2] The Office of Federal Activities of EPA provided these in response to a direct inquiry by this study. They represent the collective judgments of the staff members of this office. Although this office is directly involved in the planning and implementation of these programs, these estimates must be treated with caution since they are not based on a systematic analysis of excess implicit demand or labor inputs required.

Clearance (1,000 jobs); (4) Flood Control Structure Maintenance (1,500 jobs); and (5) Timber Stand Improvements on Public Land (11,000 jobs).[1] In addition, the National Association of Conservation Districts estimates that expansion of a Department of Agriculture program which subsidizes timber stand improvements on private (non-corporately held) land could create another 33,000 jobs.[2] The skills required to fill these 63,000 positions include craftsworkers or supervisors (about 10 percent) and low-skill workers (about 90 percent). These activities would not be very labor intensive as only $300 million of the total cost of approximately $540 million would go directly to wages. Administrative costs (including transportation) would be slightly less than $80 million, while approximately $160 million would be required for materials, supplies, and equipment.

There are three remaining environmental programs for which we have made estimates of job-creation potential--Mosquito Control, Rodent Control, and Animal Control (stray dog pick-up). We estimate that approximately 6,000 jobs could be created in expanding mosquito control, approximately 4,000 jobs could be created in expanding rodent control, and more than 7,000 jobs could be created in expanding stray dog pick up. A large majority of the jobs created by these activities could be filled by low- or moderate-skill workers. These programs would be labor intensive with approximately 80 percent of the total costs going directly to wages.[3]

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[1] The analysis of the unfunded applications to federal agencies for soil conservation activities by NACD included aggregating the total costs of these applications and estimating the portion of the cost that would constitute the wage bill. The current wage bill was then divided by the currrent wage levels paid for employees in these activities to derive the job-creation potential.

[2] NACD provided this estimate in response to a direct inquiry from this study. Although this estimate represents the collective judgment of the staff members of NACD, it must be treated cautiously since it is not based on a rigorous analysis of excess implicit demand. Secondary data sources are not currently available to provide information on the number of acres that would be eligible for improvement through expanding this activity. Though the magnitude of the job-creation potential is open to question, independent evidence of the feasibility of expanding this activity on a large scale was collected by this study from interviews with Department of Labor (ASPER) officials.

[3] Our estimates are based largely on interviews with local public sanitation directors and others knowledgeable about the potential for expansion of these activities at the local level. The local officials with whom we met suggested the number of jobs that could be created in expanding these activities to meet public needs in their area. This information was combined with the basic assumption that the number of additional workers needed varies with the size of the population of an area. Another factor taken into consideration in deriving these estimates is that mosquito control needs to be expanded only at certan times of the year and only in certain geographical areas of the U.S. The estimates by size of place used to generate the job-creation potential are:

Federal Government Activities. During the course of this study, we found that three federal agencies had forged linkages with the locally administered public service employment programs and were hiring personnel whose salaries and positions were made possible by funds from these PSE program. These agencies are: The Farmers Home Administration, the Bureau of Immigration and Naturalization, and the Cooperative Extension Service of the Department of Agriculture. (See Table 2.9.)

Estimates of the job-creation potential for each agency were derived from information acquired through meetings with local and federal officials. The Personnel Division of the Farmers Home Administration estimates that it could provide over 1,700 jobs in their local offices within one year. The Office of the Commissioner of the Bureau of Immigraton and Naturalization, based on a survey of the personnel shortages of its local offices, estimated that it could use over 1,200 additional jobs. The Cooperative Extension Service, the educational arm of the U.S.D.A., based on a study conducted for the Department of Labor welfare reform planning effort, estimated that it could create 75,000 jobs for the unemployed within one year.[1] These jobs would be created through expansion of four program areas: agricultural and natural resources, home economics--family living, community resource development, and 4-H youth programs.

The skills required to fill these new positions in federal agencies would be primarily clerical and administrative with a substantial number of positions available for low-skill workers. Expanding these activities would be highly labor intensive with over 80 percent of the total costs for wages.

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3. (continued)

	Job-Requirements per Place		
Size of Place-City	Mosquito Control	Rodent Control	Animal Control
10,000 - 24,999	1.5	1	2
25,000 - 49,999	3	2	4
50,000 - 99,999	5	4	6
100,000 - 249,999	8	6	8
250,000 - 499,999	12	10	12
500,000 - 999,999	20	18	24
Over 1,000,000	35	26	40
Counties over 10,000 (but with no city that large and therefore not counted above)	2	1	2

[1] The study, "Potential Role for the Cooperative Extension Service (CES) in the Public Service Employment Component of the Welfare Reform Program," (unpublished), conducted by the Office of the Administrator of CES in December 1977, included a survey of 2,400 rural and urban counties and estimated that an average of 10 additional persons per rural county, or 25,000 jobs, could be used effectively in expanding needed services. In addition, CES estimated that 50,000 jobs could be created in expanding the currently limited CES programs in urban areas.

TABLE 2.9

ACTIVITIES IDENTIFIED IN FEDERAL GOVERNMENT STAFFING AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Expansion of Farmers Home Administration to improve loan processing	1.700
Staff Support for the Bureau of Immigration and Naturalization Service to process the backlog of adjudications and implement the amnesty program	1,200
Staff Support for the National Rural Center of Some Federal Agency to improve the delivery of information about government programs to rural areas. In addition, this staff would provide rural areas with the technical assistance they need to write grant applications, proposals, etc., for federal funds.	No estimate
Cooperative Extension Service (U.S.D.A.)	75,000

Sources: See text.

Other federal agencies with local offices may also need additional personnel to carry out their legislative mandates and administrative requirements. We present job-creation estimates for only three of these agencies. Thus, our total job-creation estiamte for this program area, nearly 80,000 jobs, represents only a fraction of the numbers of jobs that federal agencies could provide if they were given the opportunity to use PSE funds.

Fire Protection and Prevention. Secondary data sources for estimating the excess implicit demand or labor input requirements for expansion of fire protection and prevention activities were inadequate. However, fieldwork conducted for this study has provided information on the basis of which some very crude and tentative job-creation estimates could be generated.

We identified four fire protection and prevention activities as viable candidates for public job-creation (see Table 2.10) and were able to derive job-creation estimates for two of these. Approximately 5,100 jobs could be created by expanding fire prevention activities (such as talks, displays, and other presentations to public school students, community groups, employers of large and small companies, government and private agencies, and to other public groups). Approximately 5,700 jobs could be created by increasing fire hazard inspections.[1] These activities could utilize primarily low-skill workers with a small percentage of professionally skilled persons required to provide supervision and on-the-job training. Both of these activities would be labor intensive with nearly 85 percent of the total cost of expanding these programs going directly to wages.

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[1] These two estimates are based on information acquired during our field visits which included interviews with local fire chiefs, administrators of fire protection, prevention, and inspection programs, and others knowledgeable about the potential for expansion of these activities at the local level. These local officials provided educated guesses about the number of jobs that could be created in expanding these activities in their area. The basic assumption used in deriving these estimates was that job-creation potential varied with the size of the universe of need, proxied by population, and size of place. Our estimates of job-creation potential for each size of place were:

	Job-Requirements per Place	
Size of Place-City	Fire Prevention	Hazard Inspection
10,000 - 24,999	1	1
25,000 - 49,999	2	2
50,000 - 99,999	4	4
100,000 - 249,999	10	10
250,000 - 499,999	20	20
500,000 - 999,999	40	40
Over 1,000,000	70	60
Counties over 10,000 (but with no city that large and therefore not counted above)	1	1

TABLE 2.10

ACTIVITIES IDENTIFIED IN FIRE PROTECTION AND PREVENTION PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Fire Prevention Programs such as speeches, displays, and other presentations offered in public schools, to community groups, employees at their place of work, homes	5,120
Fire Hazard Inspections in Public Buildings, Public Housing Units, and Businesses	5,710
Staff Support for Local Voluntary and Paid Fire Departments	No estimate
Fire Prevention in Wooded Areas	No estimate

Sources: See text.

Lack of suitable available data prevented us from including in these preliminary estimates the numbers or types of jobs that could be created in providing additional staff support for local voluntary and paid fire department. Thus, the approximately 11,000 jobs discussed here underestimates the job-creation potential that could be realized by expanding fire protection and prevention services.

Food and Nutrition Oriented Activities. Six food and nutrition-oriented activities were identified as viable candidates for public job-creation (see Table 2.11). Although there currently exist projects carrying out each of these activities, suitable data were not available for estimating the job-creation potential for any of these activities.

Health Care. Four major health care activities were identified as viable public job-creation candidates (see Table 2.12).[1] However, estimates of job-creation potential could only be derived for expanding paraprofessional staff support for two of these activities--Community Health Centers and Preventive Health Screening Services, Follow-up and Referrals.

The Office of the Assistant Secretary for Planning and Evaluation of HEW estimates that expansion of the services provided by community health facilities could create 24,000 jobs as community health workers, health counselor and outreach person and paraprofessional environmental health workers.[2] All of these positions could be filled by low-skill persons who would be given supervision and on-the-job training by skilled and more experienced staff currently employed at the community health cetners. Expanding the community health center services in this manner would be a labor intensive activity with approximately 70 percent of the total costs for wages.

A second major activity is preventive health screening services, follow-up and referral--specifically, services provided by the Early Periodic Screening, Diagnosis, and Treatment Program (EPSDT). This program, authorized by Title XIX of the Social Security Act of 1976, mandates each state to provide EPSDT services for all children in families eligible for Medicaid. HEW estimates there are 8 million children eligible for the program, yet only 2 million children have been screened to date and only 1 million more are expected to be screened by FY 1979. Based on its analysis of current EPSDT operations in Washington and other states, HEW, in a recent study conducted for the Department of

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[1] We also identified "long-term home care for the elderly" as a viable candidate for expansion. This program is discussed below "Social Services for the Elderly and Handicapped."

[2] ASPE assumed that, for every 1,000 persons served by community health facilities in health underserved areas (total 6,000,000), there exists the need for 2 additional community health workers, 1 health counselor, and 1 environmental health worker. Expansion of the number of community health facilities could increase the job-creation potential for this activity from the 24,000 reported in the text. A "health underserved area" is defined by HEW as a technical term used by HEW that is based on an index of four area specific factors: (1) number of doctors per capita, (2) number and type of health facilities per capita, (3) number of persons living at, or below, the poverty line, and (4) number of elderly persons.

TABLE 2.11

ACTIVITIES IDENTIFIED IN FOOD AND NUTRITION ORIENTED PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for the Expansion and Establishment of Gardening Projects	No estimate
Planting of Crops in Areas Where None or Less Than the Optimal Amount is Begin Planted	No estimate
Staff Support for Food Cooperatives and Other Methods to Distribute Food More Directly from Farmer to Customer	No estimate
Construction and Staff Support for Low-Cost Solar Heated Greenhouses	No estimate
Staff Support for School Breakfast Program	No estimate
Staff Support to Provide Nutritional Information and Food Purchasing Counseling	No estimate

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Sources: See text.

TABLE 2.12

ACTIVITIES IDENTIFIED IN HEALTH CARE AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Community Health Centers and Related Services including community health workers, environmental health workers, and health counselors	24,000
Paraprofessionals, Clerical and Other Staff Support in Hospitals, Clinics and Other Short-Term Care Facilities (other than those listed above in this table)	No estimate
Paraprofessionals, Clerical and Other Staff Support for Long-Term Care Facilities such as nursing homes, hospitals, etc.	No estimate
Preventive Health Screening Services, Follow-up and Referrals	18,000

Sources: See text.

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Labor, estimates that over 2 million additional children in poverty could be screened annually with an additional 18,000 workers.

These workers would serve as outreach workers and case managers. All of these positions could be filled with low-skill workers who would be given supervision and on-the-job training by those currently working in the program. Expanding this health care activity would also be very labor intensive with nearly 80 percent of the total cost going directly to wages.

The 42,000 jobs which could be created in expanding these two health care programs represent a fraction of the number of jobs that could be created in the hospitals, nursing homes, and other health care institutions currently experiencing severe shortages of personnel. Suitable data were not available for job-creation estimates for the two activities: "hospitals, clinics and other short-term care facilities" (not including Community Health Centers), and "long-term care facilities," such as nursing homes.

Housing. We identified 12 housing-related activities that are viable candidates for public job-creation (see Table 2.13). We were able to derive job-creation estimates for 7 of these activities.

The housing-related activity which could create the largest number of jobs for the unemployed is housing rehabilitation. Based on the recent work by Hausman, Evans, and Friedman, we estimate that for each of the next 15 years, over 76,000 jobs could be created annually in extensive housing rehabilitation, nearly 23,000 jobs could be created in moderate housing rehabilitation, and approximately 8,000 jobs could be created in minor home repair.[1] Expansion of this activity in this manner would rehabilitate 570,000 houses per year and, at this rate, all existing substandard houses would be rehabilitated at the end of 15 years.[2]

The skill mix required for housing rehabilitation would include approximately 60 percent of the jobs to be filled by skilled craftsworkers or foremen,

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[1] The job-creation skill mix and associated cost estimates presented here are based on the work of: (1) David M. Birch who estimated the number of houses in need of rehabilitation; (2) Arthur P. Solomon who prepared estimates of the labor requirements (skill mix) per dollar of housing rehabilitation; and (3) the recent work of Hausman, Evans, and Friedman who used the Birch and Solomon work as the basis for estimating the job-creation potential and associated costs in meeting the need for housing rehabilitation.

[2] The basic assumptions made in estimating the job-creation potential and associated costs involved in housing rehabilitation are (1) there are currently 5.5 million houses in need of rehabilitation; (2) one-third of the houses require substantial rehabilitation ($10,000), one-third require moderate rehabilitation ($3,000), and one-third require minor rehabilitation ($1,000); (3) 200,000 additional houses will require rehabilitation each year in the future, and (4) the number of jobs that could be created and associated costs are based on undertaking a housing rehabilitation program repairing 570,000 units a year in each of the next 15 years. At the end of 15 years, all housing units (the current 5.5 million plus the 200,000 additional ones per year) would be restored to a state of physical adequacy.

TABLE 2.13

ACTIVITIES IDENTIFIED IN HOUSING AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Housing Rehabilitation (Extensive)	76,380
Housing Rehabilitation (Moderate)	22,900
Housing Rehabilitation (Minor Home Repair)	7,640
Security Guards/Patrol for Public Housing Projects	6,800
Resident Managers for Public Housing Projects	No estimate
Develop Playground, Recreation Facilities and Organized Programs for Housing Project Residents	No estimate
Staff Support for Landlord-Tenant Counseling Activities	No estimate
Conduct General Housing Inspections for Lead Based Paint Code Enforcement, Eligibility for Section 8 and Other Federally Supported Housing Programs	2,950
Lead Based Paint Removal from Public Housing Units, Private Houses and Public Buildings	2,000
Staff Support for Emergency Residential Facilities for the Disadvantaged	No estimate
Conduct Housing Abandonment Surveys	1,260
Replacement of Inadequate Lock, Security Devices in Houses and Public Buildings	No estimate

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Sources: See text.

while nearly 30 percent of the jobs would utilize low-skill laborers. Professionals, operatives, and clerical support persons would be required for the remaining positions. The cost of creating these 107,000 jobs in housing rehabilitation would be roughly $2.7 billion with approximately $1.35 billion, or one-half, for wages. Materials, supplies, and equipment costs would constitute approximately 40 percent, and administrative costs 10 percent of total costs.

The other housing-related job-creation project ideas yield smaller numbers of employment opportunities. We estimate that approximately 6,800 jobs could be created in expanding the security forces guarding public housing projects. Housing inspections could be expanded to create an additional 3,000 jobs while approximately 1,300 jobs could be created to conduct housing abandonment surveys and related activities.[1]

Expansion of these activities would require between 10 and 20 percent of the workers to have professional skills while approximately 80-90 percent of the jobs created could be filled by low- or moderate-skill workers. In addition, these activities would be very labor intensive with approximately 85 percent of the total costs for wages.

The final housing-related activity for which we have derived job-creation estimates is lead-based paint removal and related health screening services. Based on information provided by the Center for Disease Control in response to a direct inquiry from this study, we estimate that approximately 2,000 jobs

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[1] These estimates were derived from interviews with local housing inspectors, directors of local housing authorities, urban renewal agencies, locally elected officials, representatives of community-based organization, and other local government staff members involved in housing programs in cities of various sizes.

In deriving these job-creation estimates, it was assumed that the number of additional jobs that could be created varies with the size of the population served, proxied by total population, and size of place. Estimates used by size of place to arrive at national totals were:

	Job-Requirements per Place		
Size of Place-City	Security Forces	Abandonment Surveys	Housing Inspection
10,000 - 24,999	1	0.5	0.5
25,000 - 49,999	3	1	1
50,000 - 99,999	8	1	2
100,000 - 249,999	16	1.5	4
250,000 - 499,999	40	3	8
500,000 - 999,999	60	6	60
Over 1,000,000	80	12	32
Counties over 10,000 (but with no city that large and therefore not counted above)	0	0	1

could be created expanding this activity. Roughly 90 percent of these positions could be filled by low-skill workers. This activity would be very labor intensive with over 80 percent of the total costs for wages.

Other government supported housing-related activities could be candidates for public job-creation. However, certain activities, such as constructing public housing projects, were not considered viable by this study because of the long lead-times they require for adequate planning and were, therefore, excluded.

Local Government-Supported Buildings and Public Works. The federal government, as part of its 1977 economic stimulus package, expanded the public works program. In March, it announced that a new $4 billion program would be supported through the Economic Development Administrtion (EDA) of the Department of Commerce. Local governments were asked to submit applications for federal funds documenting unmet local needs for public works projects. The applications they submitted totaled approximately $22 billion. The $18 billion of projects that were not funded represent our estimate of the unmet needs for local public works projects. The first 32 job-creation activities listed in Table 2.14 are drawn from the categories of the unfunded projects. We derived job-creation estimates for each activity based on the dollar amount of unfunded projects submitted to EDA.[1]

The activity with the greatest job-creation potential is construction of schools, learning and training facilities. We estimate that 81,000 jobs can be created to meet public needs for these facilities. The second largest activity in this category would be the repair and construction of municipal office buildings, town halls, and courthouses, which could create over 41,000 jobs. Over 30,000 jobs are possible in repair, maintenance, and construction of local streets, roads, and highways. Other major activities include the construction of water systems (24,600 jobs) and sewer systems (25,000 jobs).

In addition to basic local public works activities removing architectural barriers in public and educational buildings and ramping street curbs in commercial, high density neighborhoods, and on the grounds of educational buildings are activities with significant job-creation potential. We have generated job-creation estimates for architectural barrier removal in public libraries, other public non-educational buildings, in educational facilities

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[1] Total costs were first broken down into component costs: wages, materials and supplies, and administrative costs--based on the findings of earlier studies of public works. Estimates of the wage bill by major occupational category were then generated. Employment by occupation was then derived by dividing the occupation-specific wage bill into the occupation-specific wage rate. A detailed description of this method of estimation is contained in Jones.

TABLE 2.14

ACTIVITIES IDENTIFIED IN LOCAL GOVERNMENT-SUPPORTED BUILDINGS AND PUBLIC WORKS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Park, County Park, etc.	7,100
Police Station	4,200
Fire and/or Rescue Station(s)	5,300
Jail, Prison, Detention Facility	9,700
Municipal Office Building, Town Hall, Courthouse	41,800
Hospital, Clinic, Nursing Home, Health Center	12,600
Arena, Stadium, Bleachers, Pavilion	3,100
Auditorium, Theater	3,300
Gymnasium, Swimming Pool, Recreational Building	17,400
Community Center, Social Service Center	11,300
School, Learning or Training Facility	81,600
Library	6,000
Museum, Cultural Center, Science Center	8,900
Air, Water, Rail Terminal Buildings	2,500
Garage, Parking Structure	6,800
Factory, Cannery, Processing Plan	300
Shell Industrial Building, Warehouse, Market	4,100
Port Facility, Harbor Development	5,700
Electric Power Plant, Generating Facility	800
Dwelling Units, Houses, Apartments	2,700
Dams, Levees, Dikes, Flood Control Structures	700
Water System (Lines Plus Well, Reservoir, etc.)	24,600

TABLE 2.14
(continued)

Activity	Job-Creation Potential
Water Source Development (Reservoir, Well, etc.)	3,300
Water Treatment Facility (potable)	5,900
Sewer Lines, Mains, Trunks	12,200
Sewer System (lines plus outfall, pumping, etc.)	25,000
Sewage Treatment Plant, Wastewater Treatment Plant	12,600
Street, Road, Highway (may include sidewalk)	31,300
Sidewalks, Curbs, Gutters	3,100
Combines Water/Sewage and Street/Road and Sidewalk	8,700
Parking Lots	500
Multiple Utility-type Project	22,000
Architectural Barrier Removal in Public Libraries	12,700
Architectural Barrier Removal in Other Public Non-Educational Buildings	25,400
Architectural Barrier Removal in Educational Facilities	10,400
Ramping of Street Curbing in Commercial and High Density Neighborhoods	13,800
Ramping of Street Curbing on Grounds of Educational Facilities	1,600

Sources: See text.

(both university and non-universtiy buildings), and estimates of the job-creation potential are provided for the ramping of street curbs.[1] We estimate that a minimum of 63,000 jobs could be created in expansion of these activities.

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[1] The job-creation potential figures presented here are based on recent studies by the President's Commission on Employment for the Handicapped, the National Center for a Barrier Free Environment, and the Department of Labor in preparation for the Welfare Reform Program. They are also based on interviews with local public works directors and staff members of department and staff members of the Office of Policy, Planning, and Evaluation of the Community Services Administration.

A recent study by the President's Committee on Employment for the Handicapped surveying all the states requesting information on the costs that would be incurred in making all public libraries accessible to the handicapped yielded the following estimates:

(1) The total cost of removing architectural barriers in libraries would be $261 million with 50 percent of this cost for wages and 50 percent required for materials, supplies, equipment, and administrative costs. Thus, the total wage bill would be $131 million and, assuming an average wage of $10,350 per worker, 12,700 jobs could be created.

(2) An additional 25,410 jobs could be created removing architectural barriers in other public, non-educational buildings if the architectural barrier removal estimated for public libraries were doubled for other public buildings. Since public libraries constitute far less than one-half of all public, non-educational buildings in the country, estimating the potential for employment opportunities by simply doubling the level activity needed for libraries should provide us with a conservative estimate of the employment potential in this area.

(3) University-HEW regulations (#504) state that by 1981 all universities receiving public funds (estimated 2,700 schools) must offer all educational programs to mobility handicapped students. Assuming an average of $50,000 per university for building-related improvements, a total of $135,000,000 would be required, with $67,500,000 for labor. At average wage cost of $10,350 per worker, 6,522 workers would be employed.

Although much work has been completed providing ramps on curbs on university campuses, assuming that an average of only 5 intersections per campus require ramping, the cost (at $1,800 per intersection) would be $24,300.000.

The estimate of $1,800 per intersection is based on interviews with public works directors and the National Center for a Barrier-Free Environment (which reported on a study completed in Montgomery County in 1976, showing a cost of $1,800 per intersection). Assuming wage costs equal 60 percent of total costs and an average wage of $9,000, 1,620 jobs could be created in ramping curbs on the grounds of university facilities.

There are 80,000 public schools and, assuming that only $2,000 would be sufficient per building, and only 25 percent of these buildings require such work, the expected cost would be $80 million. Assuming 50 percent of that cost for wages at an average of $10,300 per worker, 3,865 on-site jobs would be created.

Finally, our estimate that approximately 14,000 jobs could be created in ramping of street curbing in commercial and high density neighborhoods is based on the assumption that nearly 120,000 intersections are in need of such ramping.

The skill mix required for these activities would vary from activity to activity. Removal of architectural barriers in public buildings would require a work force with 50 percent skilled craftsworkers and 40 percent low-skill laborers. The remaining 10 percent of the jobs would require professional and technical skills and operatives or machinists. The skill mix required for the ramping of street curbs is lower; only 25 percent of the jobs would require the skills of a craftsworker, seventy percent of the jobs would require low-skill laborers, while the remaining 5 percent would require professional and technical skills and operatives or machinists. The total cost of these activities would be approximately $1.2 billion with nearly $650 million for wages, approximately $65 million for administrative support costs, and slightly less than $500 million for materials, supplies, and equipment costs.

Local Government Administrative Staff. We identified 6 activities requiring local government administrative staff which are viable candidates for public job-creation (see Table 2.15). Although there exist projects that are now carrying out each of these activities, suitable available data addressing either the need for expansion of these activities or their potential for creating jobs were not available. Estimates of the job-creation potential of these activities could not be derived.

Parks and Recreation. We identified 10 specific program areas in parks and recreation that are viable candidates for public job-creation (see Table 2.16). However, secondary data sources do not exist yielding adequate data on either excess implicit demand data or labor input requirements. Thus, we derived job-creation estimates for only two of the activities listed.[1]

The activity with the largest job-creation potential is reforestation of parks and woodlands, trail development, clearing of land, and staff support for the National Park Service. We estimate that approximately 40,000 jobs could be created to reduce the huge backlog of projects that currently exists.[2]

Most of the positions (over 80 percent) would require unskilled laborers while approximately 15 percent would require some supervisory, managerial, or craftsworker's skills. This activity would be fairly labor intensive with nearly $260 million of the total costs of $340 million for wages.

We estimate that approximately 15,000 six-month (seasonal) jobs could be created in increasing the number of park supervisors, recreation supervisors,

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[1] The job-creation potential of "Building and Upgrading Center City and Rural Parks" is presented under "Park, County Park" in the section on Local Government-Supported Buildings and Public Works."

[2] The job-creation potential figures here were provided by the National Park Service. In a recent survey of potential projects that could meet reforestation, trail development and general maintenance, the NPS identified 155,593 person-years of work that needs to be done. In the recent announcement of the Carter Welfare Reform Program, the Department of Labor stated that it would be feasible to develop 30 percent of these projects in the first year. Welfare Reform Fact Sheet, Number 2, February, 1978.

TABLE 2.15

ACTIVITIES IDENTIFIED FOR LOCAL GOVERNMENT ADMINISTRATIVE STAFF AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Outreach Staff Support to Register the Long-Term Unemployed and Discouraged Workers for CETA	No estimate
Additional Minority and Bilingual Staff Support for Local Office of the Employment Service to aid these groups in utilizing their services	No estimate
Additional Bilingual Staff Support for Local Government Social Services Agencies	No estimate
Staff Support to Conduct Study of Skill Mix Profile of the Unemployed by Local and Sub-Local Areas in order to provide government and businesses better labor market information	No estimate
Staff Support for Broad Based Study Commissions in Every Major City to study urban redevelopment strategies	No estimate
Staff Support to Conduct General Needs Assessment Study for Local Governments	No estimate

Sources: See text.

TABLE 2.16

ACTIVITIES IDENTIFIED IN PARKS AND RECREATION PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Trail Reconstruction and Development	No estimate
Building and Upgrading Center City and Rural Parks	No estimate
Park Maintenance and Landscaping, Park Supervisors, Water Recreation Supervisors, and Aides	7,320
Reforestation of Parks and Woodlands, Other National Forest Services	40,000
Summer Day Camps for the Disadvantaged, Youth, the Handicapped, and the Elderly	No estimate
Construction of Ecological Games, Information Signs in Parks	No estimate
Development, Beautification, and Restoration of Town Waterfronts, Lake Areas, and Potential Water Recreation Sites in Urban and Rural areas	No estimate
Build and Maintain Bikeways	No estimate
Recreational Staff Support for YMCAs, YWCAs, Other Non-Profit Recreational Centers, Large Housing Projects, Public School Districts, and Local Government Operated Recreational Facilities	No estimate
Staff Support for Organized Recreational Activities for the Elderly and Handicapped	No estimate

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Sources: See text.

and aides. This is the equivalent of roughly 7,300 full-time positions.[1] Approximately 90 percent of these positions could be filled by low-skill employees. The activity would be very labor intensive with nearly 90 percent of the total costs going directly to wages.

The nearly 50,000 jobs that we estimate could be created in expanding parks and recreation activities probably underestimates the true job-creation potential in this area since we were only able to derive job-creation estimates for two of the 10 activities identified.

Private (for Profit) Sector Oriented Activities. With the recent expansion of the public service employment program, several local areas have designed PSE projects specifically to aid the unemployed in finding gainful private sector employment. We identified four specific projects that are viable candidates for public job-creation. Suitable data for estimating job-creation potential were available for only one activity--the Job Search Project (see Table 2.17).

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[1] This estimate was derived from interviews with directors and staff members of city and county parks and recreation departments in urban and rural areas, locally elected officials, community-based organization representatives and other local government staff members knowledgeable about expansion of this activity at the local level. The local officials with whom we met suggested the number of jobs that could be created in expansion of park supervision activities. It was assumed that the job-creation potential would vary with the size of the population served and by size of place. The following estimates of staff requirements by size of place were used to generate our estimates:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	1
25,000 - 49,999	2
50,000 - 99,999	4
100,000 - 249,999	10
250,000 - 499,999	20
500,000 - 999,999	40
Over 1,000,000	62.5
Counties with population over 10,000 but with no city that large	2
Counties with less than 10,000	1.5

TABLE 2.17

ACTIVITIES IDENTIFIED IN PRIVATE (FOR PROFIT) SECTOR ORIENTED PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
On-the-Job Training in the Private Sector	No estimate
Job Search Project: Staff support for a project designed to bring small groups of previously screened unemployed workers to companies and factories who are advertising for employees. Private companies would make available a personnel officer to describe the company, give a tour, and receive job applications. Bilingual aides provided by CETA where necessary.	5,700
Tourism Promotion	No estimate
Staff Support for Local Chambers of Commerce	No estimate

Sources: See text.

Approximately 5,700 jobs could be created in expanding this activity,[1] which would bring small groups of unemployed workers to companies and factories that are in need of additional employees. Private companies and agencies where the workers visit would give these potential workers a tour of their facilities, discuss their operations, and would aid those who are interested in working there in applying for a job. The jobs created by this project would be predominantly for low- or moderate-skill workers including drivers, outreach personnel who would contact local employers and sign up unemployed workers for the visits, and coordinators who would be responsible for scheduling visits. This activity would be labor intensive with almost 80 percent of the total costs going directly to wages.

Social Services for Children and Youth. We identified 7 specific activities providing social services to children and youth that are viable candidates for public job-creation (Table 2.18).

Estimates of job-creation potential were generated for four of these activities. Over 165,000 jobs could be created in this area. The activity where the largest number of jobs could be created is providing day care services. For purposes of this discussion, expansion of existing day care services and providing new day care services will be considered a single activity. Based on two studies conducted for the Day Care Services Division of HEW, the *National Day Care Study, 1977* and the *National Child Care Consumer Study, 1975*, we estimate that approximately 34,050 jobs could be created in increasing the enrollment and staff at existing day care facilities while an

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[1] This estimate was based on interviews with employment and training agency directors (both public and private non-profit), directors of Chambers of Commerce currently supervising such job search projects, a wide variety of locally elected officials, representatives from community-based organizations, and other local government staff members knowledgeable about the expansion of this activity at the local level.

The basic assumption made in deriving this estimate is that the job-creation potential varies with the size of the population served, proxied by total population. Job requirements by size of place used to estimate job-creation potential for this project are presented below:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	1
25,000 - 49,999	3
50,000 - 99,999	4
100,000 - 249,999	8
250,000 - 499,999	16
500,000 - 999,999	32
Over 1,000,000	50
Counties with population over 10,000 but with no city that large	2
Counties with less than 10,000	1

TABLE 2.18

ACTIVITIES IDENTIFIED IN SOCIAL SERVICES PROGRAMS FOR CHILDREN AND YOUTH AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Big Brothers/Big Sisters Programs	1,530
Staff Support for Boy/Girl Scouts	No estimate
Staff Support for Boys/Girls Associations and Drop-in Centers	13,200
Staff Support for Day Care Services including day care centers, nursery schools, in-home day care services, etc. (expansion of existing services only)	34,050
Staff Support for Afterschool and 24-Hour Day Care Services	No estimate
Staff Support for Adoption Agencies and Foster Care Activities (including homemaker services for families with child care problems, "relief" or "weekend" foster parents, homemaker services for families with foster children, staff support for foster care group homes and child welfare agencies)	13,020
Staff Support for 4-H Programs	No estimate
Staff Support for Day Care Services (new services)	105,000

Sources: See text.

additional 105,000 jobs could be created in providing new day care services in homes, schools, etc.[1]

Jobs in the area of day care can be created in existing facilities or in new facilities (or homes). The job-creation potential in existing day care facilities is estimated in two ways. First, it is assumed that in day care facilities where there exists a staff-child ratio below the standards set by the Federal Interagency Day Care Requirements, additional staff personnel are needed to meet the standards. Secondly, where a center is not filled to capacity, additional children could be served and additional staff personnel would be required to serve these children.

In the National Child Care Study, a random sample of 319 day care centers were surveyed in order to measure the staff-children ratio. It was determined that many of these facilities did not meet the Interagency Standards and that it would require 765 additional employees to bring these day care centers up to the standards set for staff-children ratio. Based on this study, we estimate that it would require 25,056 additional employees to bring these 10,440 non-profit day care centers up to standard.

In 1977, HEW's Office of Child Development reported that the average number of children enrolled in day care centers was 55, although capacity is 57.5 in the 18,000 centers currently operating. Increasing the number of children served in each facility would allow an extra 45,000 children to receive day care services. Assuming an average staff-child ratio of 1:5, increasing the number of children to fill the capacity in existing day care centers would create 9,000 jobs.

In addition, the National Child Care Consumer Study estimated that in 1975, 12% of the children under 14 years old, 5.4 million, did not receive any child care services other than those provided by their parents.

The study also showed that 20.2 percent of the households surveyed with a child under three years and 26.2 percent of the households surveyed with children from 3-5 years old used no child care. There were 13,733,000 households with children under six in 1975. Assuming these households are equally divided, with 7,000,000 having a child from ages 0-3 and 7,000,000 households having a child ages 3-6, we estimate that 1.4 million households with a child 0-3, and 1.8 million households with a child from ages 3-5 are not receiving child care services. The estimated universe of need, 3.2 million households, may understate the true universe of need to the extent that there is more than one eligible child per household. The estimate is, therefore, adjusted upward by assuming 1.2 children per household. Thus we estimate that 3.8 million children under age six are not receiving child care services except through their own parents. Assuming 15 percent of these households live below or at the poverty level, 570,000 children may be living in poverty and without day care services.

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[1] The job-creation potential figures presented are based on information in the National Child Care Consumer Study of 1975 (Office of Child Development, Department of HEW); the National Day Care Study (by Abt Associates for Office of Child Development); and the Federal Interagency Day Care Requirements established pursuant to Sec. 522(d) of the Economic Opportunity Act.

Expansion of day care centers to capacity would serve 45,000 of these children. Thus, 525,000 children who live in poverty and currently receive no day care services could greatly benefit (as well as their parents) from this service. Assuming a child-staff ratio of 5:1, serving these children would provide 105,000 jobs. This brings our total to 139,500 jobs that can be created to help meet the needs for day care services.

Expanding day care services could be accomplished by using predominantly low- and moderate-skill workers. Expansion of these programs would be labor intensive with approximately $940 million of the estimated total cost of $1.1 billion for wages.

Over 14,000 jobs could be created in expanding the services of youth oriented organizations such as Big Brothers/Big Sisters of America (BB/BSA) and other Boy's and Girl's Associations and "drop-in centers." Big Brothers/ Big Sisters of American alone has a waiting list of over 100,000 youth who have requested services from their 350 local chapters. They estimate a job-creation potential of 1,300.[1] Boy's Clubs and Girl's Clubs also have long waiting lists and chronic shortages of staff. They estimate that roughly 13,000 jobs would be required to eliminate these waiting lists and shortages.[2] A large majority of these positions could be filled by low- or moderate-skill workers. Roughly 75-80 percent of the total estimated cost of $170 million of these activities would be for wages.

In addition, we estimate that within on year over 13,000 jobs would be feasible for staff support for adoption agencies, foster care activities, and child welfare agencies and within two years a total of 26,000 jobs could be created.[1] The jobs would include providing homemaker services for families with child care problems, "relief" or "weekend" foster parents, homemaker services for foster children, and professional, clerical, and other staff support for foster care group homes and child welfare agencies. These activities would be both labor intensive and low-skill. Nearly 90 percent of the total cost of expanding these services would be for wages, and approximately 70 percent of these 13,000 positions could be filled with low-skill workers.

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[1] This estimate was provided by the National Office of BB/BSA. Two factors were considered--the waiting lists for their services and the potential for their 350 local agencies to absorb additional workers within one year. It should be noted that BB/BSA extimates that it could create an additional 2,000 jobs in the second year of an expanded public jobs program.

[2] There are 1,100 Boy's Clubs of America. In a study prepared for this resarch project, the National Office of Boy's Clubs estimates there exists the potential, on average, to place 4 additional workers in each of the clubs in the first year of an expanded PSE program for a total of 4,400 potential jobs. The estimate is based, in part, on the need to provide additional services and, in part, on an analysis of the organization's capacity to absorb new workers. During the second year, the National Office estimates that 2 additional workers could be added to each club.

In addition, we assume that, when one takes into account Girl's Clubs, Campfire Girls and other local, non-affiliated organizations, the job-creation potential in expanding these services is at least three times that of the estimate provided by Boy's Clubs of America. Thus, we estimate that approximately 13,000 jobs could be created in Boy's and Girl's Associations and "drop-in centers."

Although we have identified over 165,000 jobs that could be created in expanding these five social services for youth, suitable data are not available to analyze the job-creation potential for three other services identified as viable candidates for a public job-creation program.

Social Services--for the Elderly and/or Mentally or Physically Handicapped. We identified 20 social service activities for the elderly and/or mentally or physically handicapped that could be viable candidates for public job-creation (see Table 2.19). However, job-creation estimates were derived for only five of these activities because of data limitations.

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1. The job-creation potential and associated cost figures presented here are based on interviews with directors and staff members of state and local child welfare agencies, staff members in the Foster Home Standards Division and Adoption Agencies Program in the Department of HEW, parole, probation, and other criminal justice officers who work with youth, university professors, and other local, state, and federal government staff members involved in the delivery of these services.

Child welfare services are usually administered at the state level and the assumptions upon which we base our job-potential estimates reflect this institutional arrangement. In addition, these estimates take into account the ability of child welfare, adoption agencies, etc. to absorb, train, and utilize effectively the additional workers.

Information provided this study by the Department of Social Services in the State of Iowa indicated that its state child welfare ageny could quickly absorb the following additional staff support: 200 homemakers, 50 supervisors, and 40 social workers. We assumed that the immediate demand for additional staff would vary by state with the size of the state population, arrayed by states by size of population, created quartiles of states, and used the following factors to generate our estimates of job-creation potential:

Quartile (by size of population)	Additional Staff Required
Lowest quartile	70
Third quartile	140
Second quartile	280
Highest quartile	560

These assumptions produce a job-creation potential of 13,000.

Ultimately, we were told, the state child welfare agency would be able to absorb an even larger staff increase--roughly double what is reported as feasible in the short-run.

TABLE 2.19

ACTIVITIES IDENTIFIED FOR SOCIAL SERVICES PROGRAMS FOR THE ELDERLY AND/OR MENTALLY OR PHYSICALLY HANDICAPPED AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Senior Citizen Community Centers	6,870
Homemaker and Long-Term Care Services for the Elderly and Mentally or Physically Disabled (including escort services to and from banks, shopping centers, in high crime areas, at night, etc., for the elderly, deaf, blind, mentally, or otherwise physically handicapped and transportation to and from medical facilities, shopping, recreation activities, social visits, etc.)	138,190
Staff Support for Shopping Services - the purchase and delivery of food, prescription drugs, laundry, etc.	No estimate
Lawn Care Services	No estimate
Staff Support for Arts and Crafts Projects to teach elderly and handicapped how to produce marketable crafts	No estimate
Staff Support to Facilitate the Exhibition and/or Sale of Crafts and Other Goods Produced by the Elderly and Handicapped	No estimate
Staff Support for Sheltered Workshops and Vocational Rehabilitation Facilities (including liaison staff who contact private businesses and public agencies and secure work that the elderly and handicapped can do in their workshop or home)	30,110
Staff Support for Counter-Loneliness (Phone-Pal) Programs	No estimate
Local Needs Assessment Studies for Elderly and Handicapped	No estimate
Reader Services for the Blind	No estimate
Staff Support for Centers Teaching Braille and Providing Services to the Blind	No estimate

TABLE 2.19
(continued)

Activity	Job-Creation Potential
Staff Support for Hearing and Speech Centers teaching sign language and providing services for the deaf	No estimate
Ancillary and Day Care Staff Support for Residential and Commuter Oriented Centers for the Retarded	No estimate
Ancillary and Patient Day Care Staff Support for Mental Health Institutions	No estimate
Staff Support for Special Information and Referral System Designed to Aid the Elderly and Handicapped	No estimate
Staff Support for Senior Citizen/Handicapped Person's Employment Agency that provides job development services exclusively for these target groups	No estimate
Staff Support for Community Mental Health Facilities	No estimate
Staff Support for Goodwill Industries of America, Inc.	2,480
Meals on Wheels Programs	99,000
Staff Support to Prepare "Community Dinners" where large concentrations of elderly and handicapped live	No estimate

Sources: See text.

The activity with the largest job-creation potential in this area is a program that combines homemaker, escort, and transportation services. We estimate that approximately 140,000 jobs could be created by expanding these services.[1] Roughly 90 percent of these positions could be filled with persons of low or moderate skills including drivers, homemakers, and nurse's aides. Expanding these activities would be moderately labor intensive with nearly $860 million of the estimated total cost of $1.2 billion for wages.

The activity with the second largest job-creation potential is "meals on wheels." Based on information provided by the Senate Select Committee on Nutrition and Human Needs, we estimate that approximately 99,000 jobs could be created to expand this service to the 875,000 homebound persons in need of meal preparation.[2] Most of the jobs created by expanding this activity could be filled by low- or moderate-skill workers. Expanding this activity would not be labor intensive. Approximately $600 million of the estimated

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1. This job-creation potential is based on estimates of the universe of need (target population) made in the Comprehensive Needs Survey (Urban Institute, 1975) by the Social Security Survey of the Non-Institutionalized Disabled, and in the recent work by Hausman, Friedman, and Evans.

Based on these studies, we estimate approximately 2.0 million elderly and/or mentally or physically handicapped persons in need of some form of home care. Of these, we assume 900,000 persons could be served adequately by expanding the meals on wheels programs and we exclude them from our estimated universe of need. In addition, the universe of need is reduced by the 150,000 persons estimated by the Urban Institute (Comprehensive Needs Survey) to be receiving adequate home care, and the 125,000 persons now being served by meals on wheels. Thus, our estimate of the universe of need (potential target population) for homemaker services, long-term personal and health care and escort services for the elderly, and mentally or physically handicapped is 825,000 persons.

Although program design and services offered would vary in each locality based on the degree of need of the individuals served, an assumed program model based on interviews with social service agency and community-based organization representatives currently supervising these types of programs illustrates the job-creation potential. The services provided would include 1 hour of homemaker services per day per person (200 hours per year); one-half hour per week of the services of a registered nurse (25 hours per year) and 1 hour per week of the services of a nurse's aide. The total number of hours per year per recipient would be 335 hours. Assuming each worker works for 2,000 hours per year, it would take 138,188 persons (nurses aides, homemakers, and registered nurses to provide these services). The associated cost estimates were derived from the study by Hausman, Friedman and Evans. We estimate that administrative costs in such a program would be 30 perent of wages, while materials, supplies, and equipment costs would be 10 percent of wages.

2. Current program operations serving 125,000 elderly and homebound persons require 1 worker on average for each 9 persons served. The Select Committee on Nutrition and Human Needs estimates that 1 million homebound persons could benefit from receiving this service. Subtracting those currently receiving this service, 125,000 from the target population, we estimate 875,000 persons as a potential universe of need. At a ratio of 1 worker for each 9 persons served, 99,000 jobs could be created.

total cost of $1.26 billion would be for wages. Nearly $600 million would be required for materials, supplies, and equipment, especially food.

A third activity, primarily for the handicapped, is expansion of sheltered workshops and vocational education programs. Based on a recent study for the Department of Labor by the Greenleigh Associates, it is estimated that approximately 30,000 jobs could be created to expand enrollment and educational and training services in existing facilities.[1]

The skill mix required to expand these services is generally high with well over one-third of the positions created requiring professional skills. Expanding these activities would be moderately labor intensive. We estimate that approximately $260 million of the estimated total cost of $420 million would be for wages.

Similar sheltered workshops are administered by Goodwill Industries of America. Based on its survey of individual Goodwill agencies conducted for this report, Goodwill Industries estimates that it could create nearly 2,500 jobs by expanding their services for the handicapped.[2] Expanding these workshops would require a skill mix and cost breakdown similar to those needed to expand the sheltered workshops described above.

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[1] The study reported that sheltered workshops are under-utilized due to lack of staff support. There are currently 3,000 certified workshops serving an estimated 145,442 handicapped persons daily and approximately 400,000 annually. However, the Comprehensive Needs Study of the Urban Institute found an estimated 1,000,000 additional handicapped persons who could benefit greatly from an extended long-term sheltered employment.

We estimate the job-creation potential in sheltered workshops based on the number of additional workers that could be used effectively in the existing workshops. There exists workshop capacity (but not staff) to serve an additional 90,000-100,000 persons daily. The staff to client ratio for current workshop operations is 3.9. Thus, slightly more than 26,000 positions could be created by expanding these workshops to their capacities. In addition, due to the lack of funds for staff, sheltered workshops have had to rely heavily on volunteers. Thirteen percent of their current staffs are volunteers. Making their positions part of the permanent, paid staff would provide approximately 3,000 "new" jobs. Thus, approximately 30,000 jobs--26,000 to expand to capacity and 3,000 to replace volunteers--could be created within existing sheltered workshops.

[2] The job-creation potential and associated cost figures presented here are based on a survey of the 165 Goodwill Industries by Robert J. Griggs, Director of Project Development, Goodwill Industries. The survey requested that each Goodwill Office (a) estimate the number of additional PSE employees it could use, (b) the level of administrative support that would be required, (c) level of support required for materials and supplies, and (d) the appropriate wages for these additional personnel. The key assumptions made by local Goodwill offices to estimate their capacity for additional employees include (a) having adequate space available to expand services, (b) having substantial numbers of people who could benefit from the services of Goodwill but are currently not receiving them, and (c) having the capability to absorb additional workers and use them effectively. The cost estimates are based on an analysis of the levels of wages, administration, materials, and supplies support required for the current operations of Goodwill Industries of America.

The final activity for which an estimate of the job-creation potential is provided is expanding staff support for senior citizen community centers. We estimate that approximately 7,000 jobs for clerical and service workers could be created in these centers.[1] Roughly 60 percent of these jobs would be for the relatively lower-skill service workers. This activity would be labor intensive, with nearly 80 percent of the estimated total cost of $60 million for wages.

Social Services--General. We identified seven general social services activities as viable candidates for public job-creation and were able to produce estimates of potential job-creation for three (see Table 2.20).

Nearly 11,000 jobs for clerical and service workers could be created in increasing staff support for neighborhood community centers.[2] Roughly

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[1] This estimate was based on interviews with directors and staff members of senior citizen and other neighborhood community centers, representatives from community-based organizations, locally elected officials and other local government staff members knowledgeable of creating additional jobs in senior citizen community centers.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation potential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	1
25,000 - 49,999	2
50,000 - 99,999	4
100,000 - 249,999	10
250,000 - 499,999	20
500,000 - 999,999	40
Over 1,000,000	60
Counties with population over 10,000 but with no city that large	2
Counties with less than 10,000	1

[2] This estimate was based on interviews with directors and staff members of neighborhood community centers, representatives from community-based organizations, locally elected officials and other local government staff members who are knowledgeable about the potential for creating jobs in neighborhood community centers.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation ptential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

TABLE 2.20

ACTIVITIES IDENTIFIED IN GENERAL SOCIAL SERVICES PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Neighborhood Community Centers	10,980
Staff Support for Crisis Intervention - Hot Line Phone Service Information and Referral Services	6,070
Staff Support for Alcoholism Control and Prevention	No estimate
Comprehensive Employment, Training, Counseling, and Social Services for Specific Target Populations (i.e., third generation welfare recipients, etc.)	
Family Planning Services	No estimate
Family Counseling	No estimate
Staff Support for Outreach Activities informing residents of the available resources in their community	6,120

Sources: See text.

60 percent of these positions would be filled by the relatively lower-skill service workers. This activity would be labor intensive, nearly 80 percent of the estimated total cost of $100 million would be for wages.

The two other activities identified as viable candidates for expansion under a public jobs program are: (1) crises intervention hot-line services for information, counseling, and referral and (2) outreach activities informing residents of the publicly available resources in their community. We estimate conservatively 6,000 jobs could be created in expanding each of these activities.[1]

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2. (continued)

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	2
25,000 - 49,999	3
50,000 - 99,999	6
100,000 - 249,999	14
250,000 - 499,999	30
500,000 - 999,999	60
Over 1,000,000	100
Counties with population over 10,000 but with no city that large	4
Counties with less than 10,000	1

[1] These estimates were based on interviews with directors and staff members of local information and referral services, outreach programs, hotline counseling programs, representatives from community-based organizations, locally elected officals, and other local government staff members knowledgeable about hotline and outreach activities.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation ptential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

	Job-Requirements per Place	
Size of Place-City	Hotline	Outreach
10,000 - 24,999	1	1
25,000 - 49,999	2	2
50,000 - 99,999	4	4
100,000 - 249,999	10	10
250,000 - 499,999	20	20
500,000 - 999,999	40	40
Over 1,000,000	50	50
Counties with population over 10,000 but with no city that large	1	1
Counties with less than 10,000	0.5	1

The skills required for these activities is generally low consisting of mainly clercal and service workers. The total cost of crisis intervention activities would be roughly $65 million, with slightly more than $48 million for wages. The cost picture of outreach activities would be approximately $52 million, with over $41 million for wages.

Community Development. We identified 8 activities in the area of community development and were able to derive job-creation estimates for two of these activities. Table 2.21 lists these program areas and includes the numbers of jobs that we estimate could be created.

The two job-creation project ideas for which we have derived estimates are: (1) citizen participation activities and (2) community clean-up, beautification, and other litter removal projects. For the other activities listed, suitable data were not availble upon which to provide plausible estimates.[1]

The largest activity for which we have derived job-creation estimates is community clean-up, beautification, and other litter removal activities. We estimate that approximately 57,000 jobs can be created in expanding these activities.[2] The skill mix required to expand these programs entails hiring foremen (supervisors) for approximately 5 percent of the positions, operatives (drivers, machine operators, etc.) for approximately 10 percent of the positions, and laborer positions would constitute the remaining 85 percent of the

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[1] Estimates of the job-creation potential for Voter Education and Registration are not made because federal government support of this activity through a public employment program may constitute a violation of the Hatch Act. Further research and, ultimately, court decisions may be required in order to determine the legality and job-creation potential of expanding this activity with federal funds.

[2] Our estimate is based on interviews with public works directors, community development program administrators, and others knowledgeable about the potential for expansion of this activity at the local level.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation potential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	10
25,000 - 49,999	20
50,000 - 99,999	40
100,000 - 249,999	100
250,000 - 499,999	200
500,000 - 999,999	400
Over 1,000,000	600
Counties with population over 10,000 but with no city that large	10
Counties with less than 10,000	5

TABLE 2.21

ACTIVITIES IDENTIFIED IN COMMUNITY DEVELOPMENT RELATED SERVICES AND FACILITIES AND THEIR POTENTIAL JOB-CREATION

Activity	Job-Creation Potential
Conduct Community Resource Identification Surveys	No estimate
Staff Support for Citizen Participation Processes Required Under the Housing and Community Development Block Grant Program, Title XX - Social Services, etc.	5,150
Labor Intensive Snow Removal Services	No estimate
Neighborhood Revitalization	No estimate
Abandoned Car Removal	No estimate
Traffic Control	No estimate
Community Clean-up, Beautification, and Other Litter Removal Activities	56,700
Voter Education and Registration	No estimate

Sources: See text.

jobs created. The total cost of expanding these activities would be approximately $545 million with $435 million going for wages, approximately $40 million for administrative costs and $70 million for materials, supplies, and equipment costs.

A much smaller number of jobs can be created in the second community development related activity--citizens' participation processes. Citizens' participation (CP) processes are either required or encouraged by several pieces of legislation passed by Congress. Foremost among them are the Housing and Community Development Block Grant Program, Title XX, which provides federally supported social services, and the state and local planning grants called "The 701 program." Recent research indicates that expansion of these activities could provide over 5,000 jobs.[1] The skill mix required to expand these programs entails hiring professionals for approximately 20 percent of the positions, clerical support for approximately 25 percent of the positions, and outreach workers (which could be filled by low-skill individuals provided with some on-the-job training) for the remaining 55 percent of the positions. The total cost of expanding this activity in this manner would be nearly $50 million with approximately $40 million for wages, $8 million for administrative support costs, and $2 million for materials, supplies, and equipment.

Other Job-Creation Project Ideas. We identified three additional program areas that would be viable candidates for public job-creation--Social Services for Women, Other Social Services and Transportation. However, due to severe limitations of available data, estimates could not be derived regarding the job-creation potential. Specific activities in these areas are listed in Tables 2.22, 2.23, and 2.24.

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[1] This estimate of the job-creation potential is based on the preliminary findings of a study conducted for the Department of Housing and Urban Development by the National Citizens' Participation Council (NCPC). The NCPC estimates that in each of the 500 areas receiving large "701" planning grants, an additional 4 staff persons are needed to create an effective CP process.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation potential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	0.5
25,000 - 49,999	1.0
50,000 - 99,999	2.0
100,000 - 249,999	4.0
250,000 - 499,999	6.0
500,000 - 999,999	8.0
Over 1,000,000	10.0
Counties with population over 10,000 but with no city that large	0.5
Counties with less than 10,000	0

TABLE 2.22

ACTIVITIES IDENTIFIED IN SOCIAL SERVICES PROGRAMS FOR WOMEN

Activity	Job-Creation Potential
Needs Assessment Studies for Women	No estimate
Displaced Homemakers Centers	No estimate
Pre-Employment Training for Women Entering or Re-Entering the Labor Force after a Long Absence	

TABLE 2.23

ACTIVITIES IDENTIFIED IN SOCIAL SERVICES PROGRAMS FOR OTHER TARGET GROUPS

Activity	Job-Creation Potential
Staff Support for Outreach and Other Social Services for Migrant and Other Farmworkers	No estimate

TABLE 2.24

ACTIVITIES IDENTIFIED IN TRANSPORTATION

Activity	Job-Creation Potential
Staff Support for Public Transportation Systems	No estimate
Staff Support for Community Based and Other Non-Profit Organizations to provide transportation services organization	No estimate
Staff Support for Airport such as security aides, linepersons, fuelers, maintenance staff, etc.	No estimate
Railbed Maintenance and Rehabilitation	No estimate

Sources: See Text.

Summary

Two hundred and thirty-three (233) public service and public works activities were identified as viable candidates for job-creation programs. However, sufficient information was available to estimate the job-creation potential for only 115 of these activities. The quality of these estimates varies with the amount and type of information available at the time of this study and with the source of the information. Frequently, we were forced to rely on total population figures as proxies for our universe of need. Often, we had to rely on judgments of local officials or representatives as to how large the local program could feasibly be. Finally, we often accepted information supplied by organizations that had vested interests in the amount of job-creation that could be generated. Consequently, the estimates of job-creation potential and costs are relatively crude and should be treated with caution.

We estimate that the 115 activities for which estimates were made could create approximately 3 million on-site jobs. The program areas with the largest job-creation potential are: education, public works, and social services for the elderly and/or mentally or physically handicapped. Other major program areas include criminal justice, environmental protection, and social services for children and youth.

Since this study was able to estimate the job-creation potential for less than one-half of the 233 activities identified, the figure of approximately 3 million jobs represents only a fraction of the job-creation potential of such a program. However, there is also reason to believe that some of the job-creation estimates for the 115 activities reported above may be too high. These biases work in offsetting directions and it is not obvious which will dominate.

III. ESTABLISHING PRIORITIES AMONG ACTIVITY-AREAS

Approximately 233 activities were identified in Chapter II as potential candidates for a public job-creation program. It should be obvious that these activities are not of equal importance. Their importance depends on a number of factors that may be summarized as a scale of social priorities. Priorities are determined by a complex process involving the political interaction among many different interest groups, with widely differing social agendas. Elected political officials generally decide what share of a community's resources are to be spent for all activities and how these resources are to be allocated among activities. Generally, the priorities established by this process are the result of a delicate balancing on the part of political decisionmakers, confronted with a wide and frequently conflicting array of demands.

Actual expenditure on public versus private goods and among public goods represents the outcome of this balancing and is generally a compromise among the conflicting claims on these resources. The priorities represented by these claims will clearly vary among interest groups; they will also vary from community to community according to community-specific factors, such as political and fiscal circumstances. Given the complexity in determining these priorities, it is obviously difficult to identify them in advance. We can only observe the outcome of this process--the actual allocation of public resources among activities. Thus, the task of establishing social priorities among the various activities identified in Chapter II becomes a difficult (if not an impossible) one.

In principle, one might be able to infer these priorities from an examination of how successive budgetary increments are allocated among projects. In practice, since these are hypothetical new resources not yet committed, one must turn to other methods. Community representatives--elected officials, administrators, members of community organizations, etc.--were asked directly, during field visits to local regions, to obtain information from which high-priority projects and activities could be identified.

Unfortunately, the conclusions reached must be heavily qualified. The sample is not representative of all community representatives. A wide variety of agencies and organizations were visited in each locality. Visits with some officials and community leaders led to further leads and subsequent visits with others. While some agencies and organizations were contacted in all localities, others were contacted only when time and circumstances permitted. Hence, even though the site selection techniques were reasonably rigorous, the numbers of respondents or the mix of organizations to be visited at any particular site could not be determined in advance.[1]

Moreover, even if the sample were representative, the data represent only the views about priorities of the different groups of community representatives visited. Since no particular official or community representive necessarily represents the views of the entire community (or even all members of his or her particular group), it would be unwise to generalize from their responses. Also, aggregation of the responses for all the different kinds of officials and community representatives would create an illusory and erroneous sense of consensus. Hence, the data presented here are by the type of representative or organization visited.

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[1] Site selection and visits are discussed in detail in Chapter I.

Discussions were held with five types of community representatives classified into three broad groupings:

> Elected officials -- e.g., mayors, members of city councils and community commissions; school board members, etc.
>
> Non-elected officials -- (a) those without specific program or agency responsibilities such as city managers and their assistants; executive staff in the offices of the mayor, city council or county commission; special assistants to a governor or other elected official, etc.
>
> (b) those with program responsibility, e.g., heads of agencies for planning; housing; urban renewal; social services; corrections and other criminal justice agencies; economic development programs, etc.
>
> Staff Members of community-based organizations -- (a) those without specific project responsibilities, such as minority group leaders; officials of the local chamber of commerce; United Way; League of Women Voters; and cultural organizations.
>
> (b) individuals directly responsible for delivery of services, e.g., staffs in public-supported community centers; services for the elderly; training and vocational facilities; youth organizations; Goodwill, etc.

Discussion centered on (1) identifying unmet public needs; and (2) describing program changes that would be desirable in the event of increases or decreases in federal funds. The material acquired was used as input to a multi-dimensional analysis to identify projects and activities that might be considered high priority. This Chapter presents the results of that analysis and identifies activities that might be considered high priority areas for an expanded public job-creation program.

Unmet Needs

Officials and representatives were asked about areas of public needs that remained to be met in their jurisdictions. Nearly everyone identified at least one area and, in most cases, several areas. Table 3.1 summarizes the areas identified, linking major areas, comparable to the 21 program areas described in Chapter II, with more specific areas, comparable to the 233 activities discussed in Chapter II.

TABLE 3.1

AREAS IDENTIFIED AS HAVING UNMET NEEDS

Major Area		Specific Examples
Education	--	special education (bilingual, disadvantaged, etc.) teacher aides; school building maintenance;
Energy	--	insulation; winterization;
Environmental	--	improvements of water treatment and storage; sewerage and solid waste disposal; flood control and drainage;
Community Improvements	--	street repairs, clean-up and beautification; neighborhood revitalization;
Criminal Justice	--	renovation, rehabilitation, maintenance of correction facilities; staff support for police activities;
Fire Prevention/ Protection	--	staff support for departments; fire hazard inspections;
Health	--	staff support (including paraprofessionals) for hospitals, HMO's, community health clinics; mental health programs;
Housing	--	rehabilitation, clearing land in blighted areas;
Local Govt. Buildings	--	build, expand, renovate, or maintain administrative buildings, civic centers, auditoria;
Parks and Recreation	--	maintenance and landscaping; P&R supervisors and aides;
Private Sector-Related	--	industrial parks; central-city commercial area improvements;
Youth Social Services	--	staff support for day-care services for infants; pre-school; and after-school children;

TABLE 3.1 (continued)

Social Services for Elderly and Handicapped -- staff support for senior citizen centers, for transportation; and home health and other at-home services;

General Social Services -- staff support for crisis intervention; for outreach services to disadvantaged; CETA training, counseling, etc. for special target populations; family counseling;

Transportation -- bridges; highways and roads

Table 3.2 shows the percentage of each of the five types of community representatives who mentioned any particular area or areas.[1] The frequency with which particular areas were identified varied by type of community representative. To illustrate, while about one-half of the representatives from community-based organizations identified education as a major area with unmet needs, only one-tenth of elected officials made such a selection. A major reason for this finding may be that these representatives typically have different sets of responsibilities and are sensitive to differing kinds of community pressures. For example, representatives of community-based organizations may have identified social services as an area of unmet needs more frequently than other community representatives because many community-based organizations are social service providers. In addition to the variation among different types of community representatives, there was considerable variability within any given type. For example, the fact that forty-four percent of the elected officials identified community improvements as an area of unmet needs also means that fifty-six percent of these officials did not. Only three areas were cited by more than half of any group of community representatives as areas with unmet needs. Thus, there does not appear to be much consensus even within any group of representatives.

There are many possible reasons for the variation within and among types of community representatives summarized in Table 3.2. Among these are differences in responsibilities, preferences, fiscal conditions, and political orientation. To some extent, these differences in responsibilities have been accounted for by tabulating our findings by type of community representative. However, the remaining factors still create a considerable amount of variation in perceptions of unmet needs; and they deserve further investigation.

Because of the variability among and within types of community representatives, it is difficult to identify high priority need areas from Table 3.2. However, even if each type of community representative clearly identified particular areas--for example, by having over ninety percent identify them--further analysis would be necessary to determine how far these choices reflected the perceptions of the entire community rather than those of particular interest groups. This issue is probably most relevant in the case of representatives from community-based organizations and is probably least relevant in the case of elected officials. One might even argue that, because of their responsibilities, elected officials come closest to reflecting the priorities of the entire community. But, for purposes of this analysis, we assume that no particular group of community representatives fully reflects community preferences. Instead, we assume that projects and activities identified by most groups have the widest base of support in the community.

To acquire a clearer sense of priority, we have ranked areas according to the frequency with which they were identified by each group of community representatives. Table 3.3 summarizes these rankings. It clearly shows that only three areas are identified by more than a majority of the respondents. Thus, even areas ranking near or at the top for any group of community representatives reflected the choices by a weak plurality.

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[1] The response rate to this question was 100 percent. Not one respondent indicated that there were no unmet needs.

TABLE 3.2

FREQUENCY WITH WHICH AREAS WERE IDENTIFIED AS HAVING UNMET NEEDS BY TYPE OF COMMUNITY REPRESENTATIVE*

		Non-Elected		CBO Staff	
	Elected	With Responsibility	Without Responsibility	With Responsibility	Without Responsibility
	N=48	N=121	N=41	N=64	N=29
Community Improvements	44	21	27	13	24
Criminal Justice	46	21	20	8	28
Education	10	36	24	47	52
Environmental	67	48	39	25	31
Transportation	33	26	20	14	10
Housing	31	38	37	27	28
Social Services for Elderly; Handicapped	15	31	17	39	31
Youth Social Services	13	17	17	56	21
General Social Services	19	26	7	48	34
Health	21	22	20	38	21
Cultural	4	4	--	13	7
Energy	--	12	5	6	10
Fed. Govt. Staffing	--	**	**	--	--
Fire Prevention	21	6	15	--	--
Private Sector-related	27	16	20	17	10
Parks and Recreation	23	26	22	8	14
Local Govt. Staff	4	18	7	17	17
Local Govt. Bldgs.	23	11	24	--	7
Food; nutrition related	--	**	--	8	3

*Columns total more than 100 percent because of multiple answers.

**Less than 3 percent.

TABLE 3.3

RANK ORDER OF AREAS IDENTIFIED AS HAVING UNMET NEEDS BY FREQUENCY CITED[1]
(percentages in parentheses)

Elected	Non-Elected		CBO Staff	
	With Responsibility	Without Responsibility	With Responsibility	Without Responsibility
1. Environmental (67)	1. Environmental (48)	1. Environmental (39)	1. Youth Soc. Services (56)	1. Education (52)
2. Criminal Justice (46)	2. Housing (38)	2. Housing (37)	2. Gen. Soc. Services (48)	2. Gen. Soc. Services (34)
3. Community Improvements (44)	3. Education (36)	3. Community Improvements (27)	3. Education (47)	3. Soc. Serv. Elderly/ Handicapped (31)
4. Transportation (33)	4. Soc. Serv. Elderly/ Handicapped (31)	4. Education (24)	4. Soc. Serv. Elderly/ Handicapped (39)	4. Environmental (31)
5. Housing (31)	5. Parks: Recreation (26)	5. Govt. Buildings (24)	5. Health (38)	5. Housing (28)
6. Private Sector Related (27)	6. Gen. Soc. Services (26)	6. Parks and Recreation (22)	6. Housing (27)	6. Criminal Justice (28)
7. Government Bldgs. (23)	7. Transportation (26)	7. Private Sector (20)	7. Environmental (25)	7. Community Improve. (24)
8. Parks and Recreation (23)	8. Health (22)	8. Health (20)	8. Admin. Staffing (17)	8. Youth Soc. Services (21)
9. Fire Prevention/ Protection (21)	9. Community Improve. (21)	9. Transportation (20)	9. Private Sector (17)	9. Health (21)
10. Health (21)	10. Criminal Justice (21)	10. Criminal Justice (20)	10. Transportation (14)	10. Admin. Staffing (17)
11. Gen. Soc. Services (19)	11. Admin. Staffing (18)	11. Youth Soc. Services (17)	11. Community Improve. (13)	11. Parks and Recreation (14)
12. Social Ser. Elderly/Handicapped (15)	12. Youth Soc. Services (17)	12. Social Serv. Elderly/Handicapped (17)	12. Cultural (13)	12. Energy (10)
13. Youth Soc. Services (13)	13. Government Bldgs. (11)	13. Fire Prevention/ Protection (15)		13. Private Sector (10)
14. Energy (10)				14. Transportation (10)
N=48	N=121	N=41	N=64	N=29

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[1] Need areas with less than 10 percent not included.

Consistent with the notion of broadly-based community support, three areas--education, environment, and housing--ranked in the top five areas for four of the five groups of community representatives. An additional area --social services for the handicapped and the elderly--ranked as one of the top five areas for three of the five groups. However, two of these three groups were representatives of community-based organizations and this area ranked only 12th out of the 14 areas summarized for elected officials. If representatives of community-based organizations are least likely to reflect total community preferences and elected officials are more likely to reflect these preferences, this finding may not necessarily indicate widely based community support.

Another way of assessing community support is to examine the areas identified as having unmet needs by a substantial proportion of several types of community representative, regardless of ranking. Table 3.4 summarizes these findings.

Environmental and housing needs were the only areas mentioned by at least 25 percent of all five groups. At least twenty-five percent of three groups identified the areas of education, social services for the elderly and the handicapped, and general social services. Again, social services are identified by representatives of community-based organizations, but not by elected officials. The explanation may be that representatives of community-based organizations are in direct contact with target groups in need of services.

The choice of a 25 percent cut-off point, of course, is arbitrary and can result in the omission of some critical areas. For example, health-related programs were mentioned by at least 25 percent of only one community group, but the remaining four groups cited this area at a 20-22 percent rate. Criminal justice needs were cited by 20 percent or more of four of the groups.[1]

Moreover, political or community consensus is only one way to assess priorities. Some infrequently-identified areas may nevertheless offer opportunities for effective public investment. For example, the area of private sector development was identified by at least 25 percent of only one group of respondents, the elected officials. However, the development of industrial parks or the improvement of central city commercial areas may have more far-reaching private-sector employment payoffs than many of the public-sector activities discussed here. And elected officials, with their sensitivity to the preferences of the more general electorate, are more likely to be aware of these payoffs than the other officials and representatives.

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1. If a 20-percent cutoff is used, we find that there are three programs cited by all five community groups: environmental, housing, and health; three programs selected by four groups--criminal justice, community improvements, and education; and three programs cited by three groups--services for the elderly and handicapped, general social services, and parks and recreation. In a subsequent part of this section, we nevertheless make use of the 20 percent cutoff as one component of the multi-dimensional approach designed to "zero in" on a sharper identification of priorities.

TABLE 3.4

AREAS IDENTIFIED AS HAVING UNMET NEEDS CITED BY 25 PERCENT OR MORE OF A GIVEN GROUP OF COMMUNITY REPRESENTATIVES BY NUMBER OF GROUPS IDENTIFYING THE AREA

All Five	Four	Three	Two	One
Environmental	None	Education	Criminal Justice	Youth Social Services
Housing		Soc. Serv. for Elderly and Handicapped	Community Improv.	Health
			Transportation	Private Sector
		General Social Services		Parks and Recreation

Program Choices in the Event of Funding Increases or Decreases

Another way of analyzing priorities is to examine how respondents would deal with changes in funding. Presumably, they would use additional funds for activities which, given their current spending patterns, they consider their highest priority. Similarly, they would react to a decreased level of funding by cutting back on activities which, for current distributions of expenditures, are considered least important.

Officials and representatives were asked which activities they would increase or initiate given 25 percent increased funds and which activities they would decrease or eliminate given 25 percent decreased funds. The hypothetical questions were asked as part of an effort to introduce a sense of resource constraints to the setting of priorities. Since increases or decreases this large are unlikely, the hypothetical questions get at the extremes of priorities that might follow in the event of funding changes.

Of course, an analysis of actual behavior would have shown priorities more reliably than the responses to hypothetical responses presented here. An analysis of actual decisionmaking, however, would require an ambitious modelling effort beyond the scope and resources of this study. The main purpose of the field visits was to acquire information on new projects and activities. The hypothetical responses about priorities were a relatively costless addition.

Sizeable proportions of some groups were unable to answer either question. Only 17 percent of the elected officials gave no response to both questions. Corresponding proportions for the other three groups were: 37 percent of non-elected with responsibility; 39 percent of non-elected without responsibility; and 59 percent of the two groups of CBO staffs combined. These contrasts in response rates reflect, no doubt, differences in the decisionmaking responsibilities and experiences of the different types of respondents. Representatives reflecting the broadest base in the community (e.g., elected officials) had the highest response rates and those reflecting the narrowest (e.g., representatives of community-based organizations) had the lowest response rates. However, the CBO representatives selected the largest number of specific areas as candidates for additional funding--an indication that they may be less aware of fiscal constraints.

The responses to the hypothetical questions covered a wide range. They were classified according to the same need-areas discussed earlier. Because only small numbers of CBO officials were able to answer the questions, CBO staff with and without program responsibility are combined. Thus, only four types of respondents are compared.

Areas selected for increase are summarized in Table 3.5 Similarly, areas selected for possible reduction by those who responded are summarized in Table 3.6. A comparison of the two tables reveals that more areas were selected for increases (17) than for decreases (8). However, a substantial fraction of each type of community representative--over one-fifth--replied that they would

TABLE 3.5

AREAS SELECTED FOR INCREASES BY TYPE OF COMMUNITY REPRESENTATIVE

(percent in parentheses)

Elected Officials		Non-Elected Officials				CBO Staff	
		With Managerial Responsibility		Without Managerial Responsibility			
Community Improvement	(18)	Housing	(35)	Community Improvement	(35)	Gen. Soc. Services	(61)
Environmental	(18)	Education	(28)	Criminal Justice	(30)	Education	(50)
		Environmental	(27)	Transportation	(23)	Soc. Services for Elderly/Handicapped	(39)
		Community Improvement	(26)	Environmental	(19)	Youth Soc. Services	(34)
		Parks & Recreation	(24)	Health	(19)	Cultural	(21)
		Criminal Justice	(22)	Housing	(19)	Local Govt. Staff	(18)
		Private Sector Related	(19)	Fire Prevention	(15)	Health	(16)
		Soc. Services for Elderly/Handicapped	(18)	Parks & Recreation	(15)	Parks & Recreation	(16)
		General Social Services	(14)	Private Sector	(12)	Private Sector	(13)
		Health	(11)	Local Govt. Bldgs.	(12)	Environmental	(13)
		Youth Soc. Services	(11)	General Social Services	(12)	Housing	(11)
				Youth Soc. Services	(12)	Criminal Justice	(11)

TABLE 3.6

AREAS SELECTED FOR DECREASES BY TYPE OF COMMUNITY REPRESENTATIVE

(percent in parentheses)

		Non-Elected Officials					
Elected Officials		With Managerial Responsibility		Without Managerial Responsibility		CBO Staff	
Community Improvement	(23)	Parks and Recreation	(32)	Across-the-Board	(27)	Across-the-Board	(21)
Across-the-Board	(20)	Across-the-Board	(27)	Parks and Recreation	(19)	General Social Services	(16)
General Social Services	(15)	Community Improvement	(16)	Housing	(12)	Education	(13)
Local Government Buildings	(15)	Housing	(14)	Environmental	(12)	Parks and Recreation	(11)
Criminal Justice	(10)	Environmental	(12)				

respond to decreased federal funding by reducing all activities (across-the-board).[1] It is interesting to note that none of the community representatives chose to use additional federal funds for across-the-board increases. This suggests that many of these representatives have clearer ideas of areas that are likely candidates for expansion than they do of areas that are likely areas for contraction. An alternative (and perhaps more cynical) explanation of this finding is that the community representatives visited did not believe the scenario involving a reduction in federal funds. Hence, they chose a response--cutting across-the-board--which, in practice, would be equally unrealistic.

Elected officials were the only groups mentioning more areas for reduction than for increase. This may be because they are more sensitive to the fiscal constraints faced by local government, while other types of officials are more aware of needs that could be met by new or increased programs. Again, these differences deserve further exploration.

Also, the most frequently selected areas for expansion by both elected and non-elected officials--community improvements and housing--were areas requiring types of activity which could be expected to be of finite duration and could be done on a project basis. This suggests that local officials will be reluctant to commit additional federal resources to support ongoing activities because of the administrative and political problems they would encounter in laying off staff if the federal funding were reduced or terminated.

Only two areas were selected by more than half of any group of community representatives--general social services and education, which were selected for increase by fifty percent or more of the representatives of community-based organizations. These relatively low proportions mean that large fractions of the representatives visited chose not to select any particular need-area. This finding is another indication of the considerable variability in ranking by level of priority within any group of representatives and reinforces the earlier impression that there is little consensus about what these rankings should be. This lack of consensus reflects community-specific variations in fiscal, economic, and political conditions, and differences among groups of community representatives in preferences and perceptions of their constituencies. Further efforts to isolate the effects of these factors might prove valuable in providing a clearer picture of priority-setting.

To derive some notion of the broadness of the base of these findings, areas selected by at least three of the groups of community representatives were examined. Only one area--environmental--was selected for increases by all the groups. Seven additional areas were selected for increases by three of the groups:

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[1] It is not clear whether these activities refer to all local government activities or all federally funded government activity. An argument can be made in favor of the former interpretation on the grounds that federal funds are ultimately highly fungible in the local budget process so that tradeoffs between federally funded activities and non-federally funded activities may be feasible.

Community Improvements
General Social Services
Parks and Recreation
Housing
Youth Social Services
Health
Private-sector Development

Thus, only eight of the seventeen areas selected for expansion can be said to have some broad base of support in the community.

On the down side of this exercise, all groups opted for across-the-board decreases in expenditure in response to a hypothesized decrease in federal funding. However, three of the four types of respondents--the elected and both types of non-elected officials and representatives of community-based organizations--singled out Parks and Recreation as a candidate for budget cuts. This suggests that this area may have the broadest base of support in the community as a likely candidate for contraction.

The finding of a broad base of support for both expansion and contraction of the Parks and Recreation Area is not necessarily inconsistent. This particular area may represent a truly marginal set of activities, primarily of the service-providing type, which are supported with additional funding and curtailed as funding is withdrawn. Many instances were found in which an area selected by a community representative as a candidate for expansion was also selected by the same representative for contraction. Apparently, for these representatives, filling unmet social needs in these areas hinges critically on the availability of funds.

Non-elected officials in communities with low unemployment were most likely to display such selection behavior. This suggests that availability of funds may affect priority-setting most strongly in communities in which there are relatively few pressing unmet social needs. If needs were urgent, representatives would strongly favor them for expansion and be reluctant to recommend any contraction. Another implication is that representatives in communities with low unemployment should be less likely to select essential areas for expansion--and would therefore be more likely to select the same marginal areas for expansion and contraction.

Responses recommending "across-the-board" cuts also were apparently related to local unemployment levels. Preliminary analysis suggests that persons in areas with relatively low unemployment are slightly more likely to cut across-the-board, while those from high unemployment areas are more likely to target cuts in specific areas.

Another way of judging priorities from the answers to these questions is to compare the fraction selecting each area for expansion with the fraction selecting each for contraction. One might index the relative importance of an area by the difference between the fraction selecting it for expansion and the fraction selecting it for contraction. However, classifying across-the-board decreases raises serious problems. Failure to allocate these decreases in some way among the relevant need areas would understate the fraction selecting any particular area for contraction and would therefore overstate the importance of the unmet need. On the other hand, to add the full across-the-board percentage to the percent favoring reduction in each need-area would probably understate unmet needs since an across-the-board cut would reduce expenditure in any given area by some fraction of what would have happened had the choice been made to cut only in that particular area. A compromise with these two extreme methods was chosen by allocating the percent who elected the across-the-board cut equally among the areas identified.

Table 3.7 summarizes the results of this analysis for elected officials. Columns (1) and (2) describe the percent of elected officials who selected each area for expansion and contraction, respectively. Column (2) also includes the percentage who opted for across-the-board cuts. Column (3) adjusts the percentage in column (2) to reflect the reallocation of across-the-board respondents. In this case, since twenty percent of the elected officials had to be allocated among ten areas, the adjustment consisted of adding two percentage points to each area listed. Column (4) summarizes our index of relative importance. Only four areas--environment, housing, private sector development, and social services for youth--had more officials opting for increases than for decreases.

Tables 3.8-3.10 summarize the results for non-elected officials and representatives of community-based organizations. In contrast to elected officials, only two areas--parks and recreation and social services for the elderly and the handicapped--had fewer officials or representatives opting for increases than for decreases.

Table 3.11 summarizes the top five areas (ranked in terms of the difference between percent opting for expansion and percent opting for contraction) by type of community representative. Environment is the only area that appears to have a wide base of support, appearing in the top rankings of both elected and non-elected officials. It is also interesting to note that the range for elected officials is considerably lower than those of non-elected officials or representatives of community-based organizations. A possible implication is that elected officials tend to be more conservative than the other groups of officials and community representatives in considering expansion of public services. This conservatism, also reflected in earlier findings, could be rationalized as the result of their heightened awareness of fiscal constraints faced by the public sector and their greater sensitivity to general voter preferences (which would place greater weight on private sector consumption made possible by lower taxes) rather than specific interest group preferences.

A Multidimensional Approach to Program Priorities

Each of the approaches to program priorities discussed above (i.e., asking about unmet needs, and activities that would be selected for changes in expenditures in the event of changes in federal funding) has its limitations. None gives an adequate picture of priorities.

TABLE 3.7

AREAS SELECTED BY ELECTED OFFICIALS FOR INCREASED AND DECREASED FUNDING

(in percentages)

	N=40			
	(1)	(2)	(3)	(4)
Major Area	Increase	Decrease	Adjusted Decrease	Difference (1) - (3)
Environmental	18	8	10	+8
Housing	8	-	2	+6
Private Sector Development	5	-	2	+3
Social Services for Youth	5	-	2	+3
Transportation	5	5	7	-2
Social Services for Elderly and Handicapped	3	5	7	-4
Community Improvements	18	23	25	-7
Criminal Justice	5	10	12	-7
General Social Services	5	15	17	-12
Local Govt. Buildings	3	15	17	-14
Across-the-Board Decreases	-	20		

TABLE 3.8

AREAS SELECTED BY NON-ELECTED OFFICIALS WITH PROGRAM RESPONSIBILITY FOR INCREASED AND DECREASED FUNDING
(in percentages)

N=74

Major Area	(1) Increase	(2) Decrease	(3) Adjusted Decrease	(4) Difference (1) - (3)
Education	28	2	3.7	+24.3
Housing	35	14	15.7	+19.3
Criminal Justice	22	4	5.7	+16.3
Private Sector Development	19	2	3.7	+15.3
Environmental	27	12	13.7	+13.3
Social Services for Elderly and Handicapped	18	7	8.7	+9.3
Community Improvements	26	16	17.7	+8.3
Health	11	2	3.7	+7.3
Local Govt. Staff	9	-	1.7	+7.3
Energy	7	-	1.7	+5.3
Social Services for Youth	11	5	6.7	+4.3
General Social Services	14	9	10.7	+3.3
Food; Nutrition	5	-	1.7	+3.3
Fire Prevention Protection	5	2	3.7	+1.3
Local Govt. Buildings	7	5	6.7	+0.3
Parks and Recreation	24	32	33.7	-9.7
Across-the-Board Decreases	-	27		

TABLE 3.9

AREAS SELECTED BY NON-ELECTED OFFICIALS WITHOUT PROGRAM RESPONSIBILITY FOR INCREASED AND DECREASED FUNDING
(in percentages)

	N=26			
Major Area	(1) Increase	(2) Decrease	(3) Adjusted Decrease	(4) Difference (1) - (3)
Community Improvements	35	4	6	+29
Criminal Justice	31	4	6	+25
Transportation	23	4	6	+17
Environmental	19	4	6	+13
Health	19	4	6	+13
Fire Prevention; Protection	15	-	2	+13
Private Sector Development	12	4	6	+6
Local Govt. Buildings	12	4	6	+6
Housing	19	12	14	+5
General Social Services	12	8	10	+2
Social Services for Youth	12	8	10	+2
Social Services for Elderly and Handicapped	8	8	10	-2
Across-the-Board Decreases	-	27		

TABLE 3.10

AREAS SELECTED BY REPRESENTATIVES OF COMMUNITY-BASED ORGANIZATIONS FOR INCREASED AND DECREASED FUNDING

(in percentages)

N=38

Major Area	(1) Increase	(2) Decrease	(3) Adjusted Decrease	(4) Difference (1) - (3)
General Social Services	61	16	17.2	+43.8
Education	50	13	14.2	+35.8
Social Services for Elderly and Handicapped	39	3	4.2	+34.8
Social Services for Youth	34	5	6.2	+27.8
Cultural	21	-	1.2	+19.8
Health	16	-	1.2	+14.8
Local Govt. Staff	18	3	4.2	+13.8
Private Sector Development	13	-	1.2	+11.8
Environmental	13	-	1.2	+11.8
Housing	11	-	1.2	+9.8
Community Improvements	8	-	1.2	+6.8
Criminal Justice	11	5	6.2	+4.8
Parks and Recreation	16	11	12.2	+3.8
Social Services for Women	8	3	4.2	+3.8
Social Services-Other	8	3	4.2	+3.8
Food; Nutrition	5	-	1.2	+3.8
Transportation	5	3	4.2	+0.8
Across-the-Board Decreases	-	27		

TABLE 3.11

RANKING OF AREAS BY INDEX OF RELATIVE IMPORTANCE AND
TYPE OF COMMUNITY REPRESENTATIVE

Elected Officials	Non-elected Officials		Representatives of Community-Based Organizations
	With Managerial Responsibility	Without Managerial Responsibility	
Environment (+8)	Education (+24)	Community Improvement (+29)	General Social Services (+49)
Housing (+6)	Housing (+19)	Criminal Justice (+25)	Education (+36)
Private Sector (+3)	Criminal Justice (+16)	Transportation (+18)	Social Services for Elderly & Handicapped (+35)
Social Services for Youth (+3)	Private Sector (+15)	Environment (+13)	Social Services for Youth (+28)
Transportation (-2)	Environment (+13)	Health (+13)	Cultural (+20)

Therefore, our final approach to developing priorities among areas combines the responses to the question about unmet needs with the responses identifying areas selected for expenditure increases and decreases in the event of changes in federal funds. First, we identified for each group of community representatives those categories of unmet needs cited by at least 20 percent. Second, we identified from that list areas which (a) were selected by at least 10 percent of the group for increases with additional funds and (b) by a greater proportion for increases than for decreases. For example, housing was cited by 37 percent of non-elected officials without managerial responsibilities as an area of unmet needs. Housing activities would also be increased by 19 percent of that group if additional federal funds were available, and decreased by only 14 percent if federal funds were taken away. By all three criteria, housing-related programs would be deemed a high priority activity for this group of officials.

Table 3.12 shows the areas that met these tests by type of community representative. The results are our best overall estimate of priority areas. Environment (usually meaning water treatment and storage, sewerage and solid waste disposal, flood control and drainage) was the only area meeting the tests for all four respondent groups. Housing, Health, and Criminal Justice qualified for three of the four groups (all but elected officials). Education, General Social Services, and Social Services for the Elderly/Handicapped were each identified by two of the groups. Youth Social Services, Community Improvements, Transportation (primarily roads) and Local Government Buildings (primarily renovation and maintenance) were selected by one group. In all, eleven of the 18 need or program areas were selected by at least one group, and seven were not.

Part or all of these may be taken to represent local priorities, depending on the number of groups we take as signifying community consensus. The four areas endorsed by at least three groups--environment, housing, health, and criminal justice--are surely the strongest candidates for selection on the basis of these criteria. These projects are capable of creating at least 618,000 jobs at a cost of $7.3 billion and constitute slightly more than 20 percent of the total jobs that could be created by all program areas. In addition, the four areas selected by two groups--general social services, social services for the elderly and the handicapped, education, and community improvements--might also be considered as possible additional candidates for selection.

TABLE 3.12

AREAS QUALIFYING FOR EXPANSION UNDER LARGE-SCALE PUBLIC JOB CREATION ON THE BASIS OF FULFILLING UNMET NEEDS

		Non-Elected Officials		
Major Areas	Elected Officials	With Managerial Responsibility	Without Managerial Responsibility	Representatives of Community-Based Organizations
Environment	X	X	X	X
Housing		X	X	X
Health		X	X	X
Criminal Justice		X	X	X
General Social Services			X	X
Soc. Serv. for Elderly/Handicapped		X		X
Education			X	X
Community Improvement		X	X	
Services for Youth				X
Transportation			X	
Local Government Buildings			X	

IV. ESTIMATING THE OVERALL EMPLOYMENT EFFECT OF PUBLIC SERVICE EMPLOYMENT PROGRAMS

Introduction

The job-creation potential of the projects/activities identified in Chapter II defies simple analysis. On one hand, it can be more than simply onsite jobs because of its external (or offsite) employment effects. On the other hand, it can be less than these jobs because of fiscal substitution.

External or offsite employment effects arise for two reasons: First, expenditure of resources on nonlabor inputs can create new employment--directly in industries and firms that produce those inputs and indirectly in industries and firms that are suppliers of these industries and firms. Second, expenditures by workers newly-hired, either onsite or in other industries or firms, can induce still more new employment opportunities.

Fiscal substitution, by using the public job-creation resources to undertake projects/activities that would otherwise have been funded locally, can attenuate the onsite, direct and indirect employment effects of these projects/activities. However, it is impossible to determine how it will affect the induced second-round employment effect without knowing more about exactly how the displaced funds are utilized by the local governments.[1] If, for example, they are used to reduce local taxes, then the result will be a larger induced employment effect (arising from the additional expenditures of taxpayers) than would have been the case had there been no tax reduction. Thus, given substitution, the employment effects of the public job-creation program might be more similar to those that would have been experienced had there been a general tax cut.

This Chapter seeks to shed some light on exactly how many jobs can be created through expenditure on the projects/activities identified in Chapter II. We describe:

- the analysis used to estimate the overall job-creation effect of these projects as well as the distribution of these jobs by skill (i.e., occupation and education);
- the methods used to allocate the nonlabor costs of these projects/activities among supplying industries and to generate crude estimates of the rate of fiscal substitution;
- the nine sets of project/activity clusters which served as input to our analysis; and
- the job-creation effects of the project/activity clusters by skill.

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1. Fechter (1977, 1978); Hamermesh and Borus.

The major implication that emerges from the findings of this Chapter is that one cannot look only at the direct onsite job-creation effects of these projects to fully understand their employment impact. A substantial amount of of the employment impact of a public job-creation program will be felt indirectly through offsite employment effects. Our findings are as follows:

- Depending on assumptions made about the impact of fiscal substitution, total job-creation (both onsite and offsite) from the 114 projects used in this analysis can range from 3.5 million to 7.4 million jobs. Of these, roughly 2.2 million to 4.6 million would be offsite jobs.

- The cost per job created ranges from $5,800 to $12,100 depending on the assumptions made about the impact of substitution. These costs are about 15 to 30 percent higher for labor-intensive projects.

- Employment multipliers for these projects average 1.69, suggesting that 169 total jobs can be created for every 100 new onsite jobs. This multiplier varies substantially among project types, ranging from a low of 0.5 for labor-intensive, high-skill projects, such as staff support in the education and criminal justice areas, to a high of 5.23 for nonlabor-intensive, high-skill projects, such as public works.

- The rate of substitution assumed for all projects was 0.52. It ranged from a low of 0.43 for nonlabor-intensive low-skill projects to a high of 0.57 for labor-intensive, low-skill projects.

- Projects utilizing relatively large amounts of low-skill labor were able to provide 1.2 million to 2.5 million onsite and offsite jobs.

- About one-fourth of the jobs created in all projects could be filled by low-skill labor (i.e., laborers and service workers). However, the skill distribution of these jobs, measured in terms of occupation, differs between jobs created onsite and jobs created offsite. About one-third of the onsite jobs, but only 15 percent of the offiste jobs can be filled by low-skill labor.

- The skill distribution of these jobs, measured in terms of education, does not differ quite so dramatically as in the case of occupation. Approximately 35 percent of the jobs created both onsite and offsite can be filled by workers who did not complete high school. However, there is a notable difference in education distribution between onsite and offsite jobs created for jobs requiring more than a high school education; approximately one-third of the onsite jobs, but only one-fourth of the offsite jobs can be filled by workers with this amount of education.

An Overview of the Model

Estimating Offsite Employment Changes. As discussed earlier, offsite employment effects can be decomposed into two components: (1) direct and indirect employment effects arising from the purchase of nonlabor inputs, and (2) induced employment effects arising from second-round expenditures by those newly-employed (both onsite and offsite) as a result of the projects/activities. We estimate both sets of effects on the basis of a particular model, the Golladay-Haveman model.[1] This model is used to derive estimates of the direct and indirect employment effects (from an input-output model) and induced employment effects (from a consumption-expenditure model).

The input-output model, based on the work of Polenske, accounts for interindustry and interregional production trade flows for the production of 79 classes of commodities.[2] We input to this model nonlabor expenditures of the 115 PSE projects classified by the 79 industries in 23 state regions to generate estimates of the value of material, supplies, and equipment required to support these expenditures.[3]

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[1] Originally, the Golladay-Haveman Input/Output Simulation Model (G-H model) was designed and developed to simulate the effect of sets of alternative tax and transfer policies on the regional distribution of earnings and employment in the United States. A sequential simulation model based on a set of input/output modules, this model is composed of five primary submodules: the tax-transfer module, the consumption expenditure module, the gross output module, the factor employment module and the income distribution module. The tax-transfer module estimates household income changes as a result of changes in federal tax or transfer policies. The consumption expenditure module estimates the consumption responses by households caused by changes in their disposable income. The gross output module estimates the gross output, sector by sector, for 79 sectors and for 23 state regions required to produce the final demand generated as a result of income changes (and thus changes in consumption patterns). The factor employment module estimates the labor requirements by region and industrial sector to produce the output estimated from the gross output module. These estimate the distribution of the changes in earned income resulting from changes in the demand for workers for 15 earnings classes. A more detailed description of this model can be found in Golladay and Haveman (1977, 1976) and in Jones and Thorpe.

[2] This model is based on a Leontief production technology; thus, it is based on the standard input-output model assumptions of linearity, additivity, and nonsubstitutability for each of the 79 industrial sectors. It also assumes stability in the interregional trade flows. Model parameters are derived from five sets of data:

1. 1963 interindustry flows;
2. 1963 interregional trade flows;
3. base-year final demands;
4. 1970 projected final demand; and
5. 1980 projected final demand.

[3] Note that this value consists of two components: (1) the value from industries that are direct suppliers of resources to the projects; and (2) the value from industries that supply the suppliers. The total value of these resources is often called "direct and indirect" expenditure requirements.

The skill requirements for producing this output are derived from an employment model with two major components: (1) an array of employment-output coefficients (to translate the output generated by our projects into aggregate employment requirements); and (2) an array of occupational-employment coefficients (to allocate the aggregate employment demand among skills). The former coefficients are determined by labor productivity; the latter coefficients summarize the distribution of skills (indexed by occupation) by industry. It is assumed that these coefficients have been stable implying stability in both labor productivity and the occupational distributions of employment.

The assumption of stable labor productivity is clearly suspect and probably serves to bias upward our estimates of the direct and indirect employment effect. There are two reasons for suspecting this bias. First, while the model incorporates changes in labor productivity to the year 1973 in its coefficients, further changes in labor productivity have actually occurred since that time and probably bias our estimates of employment requirements upward by about five percent.[1] Second, while the assumption may be defensible when simulating small changes in demand, it becomes more tenuous when confronting large changes, such as the ones contemplated in this study. The reason is that such large changes are likely to alter the relative cost of labor inputs[2] and, over time, this is likely to induce employers to substitute nonlabor for labor inputs in their production processes, further raising labor productivity from its assumed 1973 level.

The employment model is further augmented by a set of coefficients which allow us to transform the occupational requirements into educational requirements. These coefficients are assumed equal to the 1970 distribution of the employed work force within each occupation by education. No attempt is made to adjust these coefficients for the rising educational levels of the work force. Our estimates of the educational requirements are therefore probably biased downward. The bias appears to be most serious for professional and managerial occupations and for nonfarm laborers, each of which experienced a

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[1] Annual changes in labor productivity from 1973 to 1977 are summarized below:

Year	Percent change
1974	-2.8
1975	1.8
1976	4.2
1977	2.4

See, Economic Report of the President, January, 1978, p. 300.

[2] The basis for this speculative scenario is the presumption that the elasticity of supply of labor is smaller than the elasticity of supply of materials and capital in the long run.

rise of over one year in the educational attainment of their employed labor forces.[1]

Induced second-round effects are derived from a consumption model which distributes household demand generated by the increased earnings among 56 commodities. The sensitivity of these expenditures to changes in income is derived from two parameters for each commodity: (1) the marginal propensity to consume, and (2) the marginal response of budget shares to changes in income. The first parameter nets out savings and derives the total expenditure effect and the second parameter allocates the incremental expenditure among commodities.

Golladay and Haveman base their analysis on the 1960-61 Survey of Consumer Expenditures. They explore a number of consumption models based on alternative assumptions about (1) the definition of income and (2) the behavior of the marginal budget share with respect to income change. We have selected the parameters of the model which defines income as normal (rather than current) and which assumes that marginal budget shares are invariant with respect to normal income changes.[2]

Estimates of the number of jobs created onsite and directly and indirectly are disaggregated into 15 earnings classes and 23 regions in order to generate estimates of induced employment effects. These induced effects arise from second-round expenditures resulting from the incremental earnings generated by onsite and direct and indirect employment effects. These expenditures are assumed to be a function of family income. In order to project the distribution of incremental earnings by family income class, the G-H model first estimates the size distribution of incremental earnings by individual earnings

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[1] The median number of years of school completed for the employed civilian labor force by occupation are summarized below for the years 1970 and 1976:

Occupation	Median years 1970	Median years 1976
Professional and managerial	14.9	16.0
Clerical and sales	12.6	12.7
Craft and kindred	12.1	12.4
Operatives	11.6	12.1
Laborers (nonfarm)	10.5	12.0
Service workers	11.7	12.1

[2] The latter assumption is equivalent to assuming that the income elasticity of demand is one for all commodities. Hence, this model will bias upward (downward) expenditures on commodities with low (high) elasticities of demand with respect to normal income. Golladay and Haveman, pp. 31-38.

class, and then maps changes in the distribution of earnings into changes in the distribution of disposable family income.[1]

Accounting for the Effects of Fiscal Substitution. In principle, funds for public job-creation should be used to provide additional public services. In practice, however, this objective can be subverted by substituting these funds for local funds to provide the same amount of services as would have been provided even if there had been no public job-creation program. This type of subversion has been labeled "fiscal substitution." Existing evidence suggests that such substitution may have been quite large in such public job-creation programs as PEP and earlier versions of CETA.[2] However, many speculate that substitution may be less prevalent under the current CETA program, with its increased emphasis in targeting on projects.[3]

The long-run implication of fiscal substitution for our estimates of job-creation is difficult to pin down without knowing how the local funds freed by fiscal substitution are eventually utilized. In principle, they can be used to fund other public services, to reduce taxes, or to reduce debt (or build up surplus) in the local budget.

If the funds are ultimately spent--directly on other services, or by taxpayers who, by virtue of local tax reductions, have more after-tax income available for spending--then, it is likely that the number of offsite jobs created will be larger and the number of onsite jobs will be smaller than they would have been if there had been no substitution.[1] Since onsite and offsite job-creation effects change in offsetting ways in the face of substitution, total job-creation may not differ substantially from what would have occurred had there been no substitution. However, the distribution of these jobs by occupation and/or education may differ from what would have been obtained in the absence of such substitution.[2]

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[1] To accomplish these tasks, the model uses a relative frequency distribution of 114 occupations in 23 regions by 15 earnings classes. This distribution is derived from the 1970 Census 1 in 100 sample tapes. Incremental earnings are first allocated to households by assuming that new earnings accrue to households with members employed in the affected occupations. Income is mapped to earnings by assuming that income distributions for workers with new jobs and earnings distributions for all workers within occupations are the same, implying that income accruing to holders of new jobs will be the mean income of workers in that occupation in 1970. See Golladay and Haveman (1977), pp. 44-45, and Appendix J for further details.

[2] Estimates of the rate of fiscal substitution range from 20 to 100 percent. However, they are neither precise nor robust in the face of alternative assumptions. Fechter (1975), National Planning Association, Wiseman, Johnson, and Tomola. For a critical review of these estimates, see Hamermesh and Borus. For a detailed summary of this literature, see Fechter (1978).

[3] A recent study suggests that the rate may be as low as eight percent on projects and twenty percent on other activities (Nathan, et al.). However, there are reasons to suspect that these estimates are biased substantially downward.

Since it is difficult to specify exactly what the effects of fiscal substitution might be without further research into the fiscal behavior of recipients of these job-creation funds, a task beyond the scope of this study, we simply offer a range of possible effects. The largest possible effect assumes that none of the resources freed as a consequence are spent--rather, they are used to build up budget surpluses. Under this assumption, our estimates of all relative employment effects (i.e., onsite, direct and indirect, and induced) are reduced by an amount equal to the rate of substitution. The smallest possible effect assumes that all of the freed resources are spent, either as a result of reduced local taxes or increased expenditures on other services, and that the distribution of these expenditures is exactly the same as would have occurred had there been no substitution. Under this assumption, our estimates of all employment effects are the same as those generated under the assumption of no substitution. Existing evidence suggests that the former assumption (which we label the "pessimistic assumption") may be more realistic for estimating short-run employment effects[3] while the latter assumption (which we label the "optimistic assumption") may be more realistic in estimating long-run effects.

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[1] Obviously, the greater the rate of fiscal substitution, the smaller will be the number of new jobs created onsite as a result of the program. In the extreme, complete fiscal substitution (a rate of 100 percent) will mean that no new onsite jobs are created. Instead, the funding burden of existing onsite jobs is shifted from local to federal sources. If the freed funds are spent for other public services, then both the number of offsite jobs created directly and indirectly and (as a result) the number of offsite jobs created through induced second-round expenditure effects will be larger. If the freed funds are used to reduce taxes, then, while the number of the offsite jobs created directly and indirectly will be smaller, the number induced by second-round expenditures by taxpayers will be larger.

[2] The differences would arise if local taxpayers differ significantly in their consumption behavior from federal taxpayers. This behavioral difference might imply an altered distribution of induced expenditures by industry and region and, to the extent that there are industrial and regional differences in skills, consequent differences in the skill mix of the induced employment effects.

[3] This assumption will be most tenable when the job-creation funds come as a surprise to local officials, so that they do not have the opportunity to build them into their budgets. Such anticipatory budgeting is only possible when local officials know well enough in advance that they can expect these funds so that they can reshuffle some of their own funds to other uses. We have found one study of fiscal behavior (Gramlich and Galper) the findings of which suggest that most freed funds are not spent as long as one year after they are received.

At the time we were ready for this analysis, only 114 of 115 projects for which onsite employment estimates were generated in Chapter II were available. Our estimates of onsite employment are, therefore, not strictly comparable with those reported in Chapter II on this account.[1] In addition, revisions were made in onsite employment estimates for some projects subsequent to this analysis that were incorporated into Chapter II, but could not be incorporated into this analysis. Our estimates are, therefore, not strictly comparable to those reported in Chapter II on this account also.[2] The onsite employment and cost estimates used for this analysis are roughly ten percent lower than those reported in Cnapter II.[3] Thus, as a rough guess, we might suggest that the estimates of offsite and total job-creation reported in this Chapter are biased downward by a roughly equal relative amount.

Allocating Nonlabor Project Expenditures Among Industries

In order to be able to estimate the direct and indirect employment effects of these projects/activities, we first had to allocate their nonlabor purchases to specific industries. We used several studies to allocate nonlabor project expenditures to industries [Stern (1975), Vernez, et al. (1977), and BLS (1975)]. From these studies, we were able to estimate for each type of project the percentage of expenditures for supplies, equipment, and materials used to purchase products from each of 79 industrial sectors. From the Stern study, we used nonlabor expenditures for functional activities. The Vernez, et al., study provided data for 22 public projects.[4] The BLS study provided estimates

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[1] Project 1606, which required 13,000 onsite jobs was not included in this analysis.

[2] The following revisions were made:

	Estimates		
Project	Initial	Revised	Difference
0300	18,000	50,000	32,000
1004	1,504	18,000	16,496
0426	16,000	160,000	144,000

[3] Chapter II reports 3.001 million onsite jobs; the analysis in this Chapter is based on 2.741 million jobs, a difference of 0.260 million of which 0.192 million are accounted for above.

[4] The public works projects are:

1) private one-family housing
2) public housing
3) schools
4) hospitals
5) nursing homes
6) college housing
7) federal office building
8) highways
9) sewer lines
10) sewer plants
11) large earthfill dams
12) small earthfill dams
13) local flood protection
14) pile dikes
15) levees
16) revetments
17) powerhouse construction
18) medium concrete dams
19) lock and concrete dams
20) large multiple-purpose projects
21) dredging
22) miscellaneous civil works

(See Jones for details on the type of data provided by this study for distributing nonlabor costs.)

of direct requirements per dollar of gross output for 129 industrial sectors. These were used to allocate expenditures for projects that functioned and produced services and materials similar to any of these sectors. By using findings from these three studies, we were able to allocate expenditures for 89 of the 114 projects. The remaining 26 projects had their expenditures allocated on a judgmental basis.[1] The process of matching projects to studies was based on expected similarities between the projects and programs studied by BLS, Vernez, and Stern and our projects. The projects were judged to be similar if: (1) their basic program objectives and/or functions coincided; (2) the types of supplies, materials, and equipment necessary for the execution of the program onsite could be assumed to be analogous or similar.

A detailed description of projects and the corresponding studies used to allocate nonlabor expenditure may be found in Jones. In both the BLS study and the Stern study, the coefficients used to construct our expenditure distribution were based on the structure of the U.S. industrial economy in 1963. The data in the Vernez, et al. study are based on a variety of BLS surveys taken during the period 1960-1969.

Estimation of Rates of Substitution

As noted earlier, estimates of fiscal substitution averaged over all local government activity are quite imprecise, ranging from 20 to 100 percent. Our knowledge about this form of behavior is even more ambiguous at the activity level. Lacking firm estimates, we have developed crude procedures for developing reasonable "guesstimates" of the rate of fiscal substitution by project in order to examine--albeit in a very unscientific way--plausible sensitivity of our estimates of job-creation to alternative assumptions about this rate.

We assumed that no activity experienced either absolutely no substitution or complete substitution. Instead, activities were characterized according to whether the rate of substitution was "low," "medium," or "high." The rate of substitution associated with these characteristics were:

low:	25 percent
medium:	50 percent
high:	75 percent

The estimated rates of substitution were developed according to the following characteristics: (1) whether the activity was relatively new (as opposed to a continuation or expansion of existing activity); and (2) the scale of any ongoing activity. Other things equal, substitution was hypothesized to be smaller for new activities and smaller activities.[1] Table 4.1 summarizes these rates by program area. Rates of substitution vary considerably among program areas, ranging from a high of .75 for Fire Protection and Prevention and Parks and Recreation to a low of .25 for Energy Conservation, Housing, and Private-Sector Oriented Activities. Rates by activity are described in Appendix 4B.

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[1] See Appendix IVA for a summary of projects by study used to allocate nonlabor expenditures.

Defining Activity Clusters

Ideally, we would like to estimate the employment effects of each of the 114 activities separately; however, the cost of estimating these for each were prohibitive. Therefore, we grouped activities into "clusters." The criteria adopted for grouping were structural characteristics of the individual activities. These were: (1) the distribution of expenditures for materials, supplies, and equipment by industry; (2) labor intensity; and (3) skill requirements.

The stratification process is displayed in Chart 4.1. Three major clusters were constructed under the a priori constraint that there should be no more than three major clusters.[2] We used the distribution of the expenditures for materials, supplies, and equipment by industrial sector as the major criterion for defining the three major clusters. The use of this

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[1] For example, the rate of substitution for projects providing staff support for public service activities that are already ongoing and operating at a realtively high level, such as law enforcement and public education, were assumed to be quite high. Project 0221, Staff Support for Law Enforcement Agencies, Police and Sheriff Departments, Including Dispatch Operators, Commercial Security Aides, Field Aides, etc., which provided an estimated 168,000 onsite jobs, and Project 0421, Staff Support to Expand the Number of Teachers to Achieve a Lower Student-Teacher Ratio, which provides an estimated 363,500 jobs, were both assumed to experience rates of substitution of 75 percent. In other words, only 25 percent of the 531,500 jobs provided by these projects, 132,875 jobs, were assumed to be new jobs; the remainder were assumed to be jobs that would have been supported by local money even in the absence of a public job-cration program.

On the other hand, projects providing new services or tending to expand existing activities engaged in at relatively low levels, such as energy conservation or environmental projects, were assumed to have relatively low rates of substitution. Project 0501, Home Related Construction Activities (i.e., Insulation, Winterization, and Weatherization), providing an estimated 28,000 jobs, and Project 601, Labor Intensive Recycling Systems for Glass, Paper, Aluminum, and Other Materials, providing an estimated 25,000 jobs, were both assumed to experience rates of substitution of 25 percent. In other words, 75 percent of the 53,000 jobs provided by these projects, 39,730 jobs, were assumed to be new jobs; the remainder were assumed to be jobs that would have been supported by local funds even in the absence of public job-creation program.

[2] This restriction was developed, in part, because of budgetary constraints. Ideally, we would have preferred to undertake this analysis at a more disaggregate level.

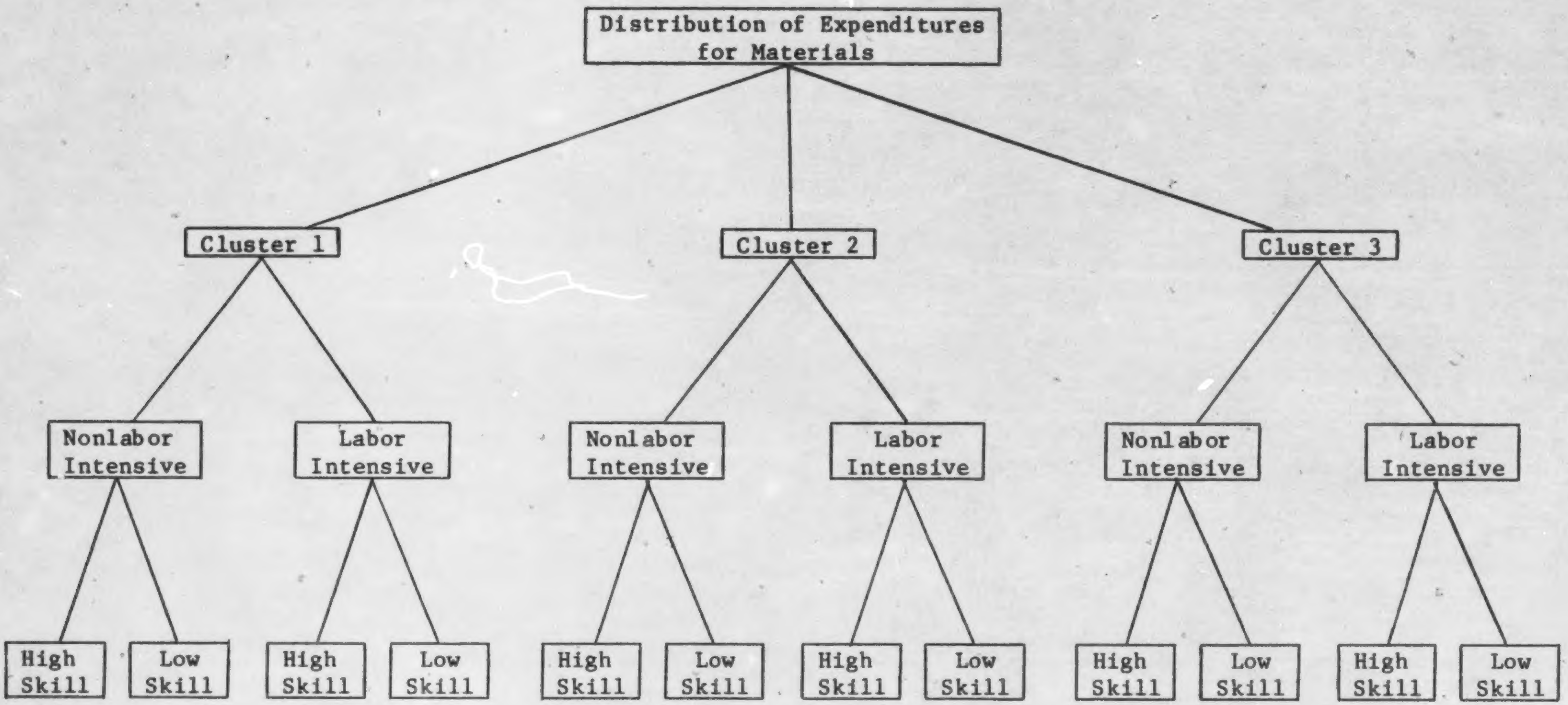
TABLE 4.1

RATE OF SUBSTITUTION BY PROGRAM AREA

Program Area	Substitution Rate
Community Development	.71
Criminal Justice	.71
Cultural Activities	.50
Education	.46
Energy Conservation	.25
Environmental Programs	.43
Federal Government	.26
Fire Protection and Prevention	.75
Health Care	.72
Housing	.25
Local Government Supported Buildings and Public Works	.50
Parks and Recreation	.75
Private (for Profit) Sector Oriented Activities	.25
Social Services for Children and Youth	.31
Social Services for the Elderly and Mentally or Physically Handicapped	.50
Social Services - General	.62

CHART 4.1

THE HIERARCHICAL CLASSIFICATION OF CLUSTERS


Distribution of Expenditures for Materials
Cluster 1
Cluster 2
Cluster 3
Nonlabor Intensive
Labor Intensive
Nonlabor Intensive
Labor Intensive
Nonlabor Intensive
Labor Intensive
High Skill
Low Skill
High Skill
Low Skill
High Skill
Low Skill
High Skill
Low Skill
High Skill
Low Skill
High Skill
Low Skill

distribution as a clustering criterion enhances our ability to describe the nature of the services provided by the activities within a cluster. We were able to ascribe qualitative descriptions of the clusters on the basis of activity mix and common objectives and services within clusters (as will be seen later in this section).

The labor intensity criterion was adopted because we expected to get significantly different employment effects from activities classified by this characteristic. Whether or not to target on labor intensive activities is a critical policy issue. It is, therefore, important that policymakers have some idea of the differences in overall employment effects between these and nonlabor intensive activities.

Skill requirement is the third criterion for stratification. By adopting this criterion, we hope to provide policymakers with information on relative employment effects of low-skill activities.

Table 4.2 shows the three major clusters with a categorical breakdown of the number of activities by type of service delivered. This criterion for clustering is quite crude, even though we are able to salvage some quasi-descriptive names for these three major clusters.

Cluster 1 may clearly be described or interpreted as a public services cluster with the basic objective of the delivery of educational, social, health, and protective services to the public. We call this cluster the "staff support-educational services" cluster. Cluster 2 may best be described as a set of public works projects which consist of heavy and building construction projects; therefore, we label this cluster the "public works" cluster or the "building and heavy construction" cluster. Cluster 3 is best described as a residual set of activities whose allocation formulas are assigned on the basis of what we believe to be the more important supplying industries. Most are concentrated in maintenance and repair construction industries.

Given the three major clusters, we further stratified by labor intensity and skill requirement. Table 4.3 shows the resulting twelve clusters generated by this stratification scheme. An activity that required more than 50 percent of its onsite jobs to be filled by unskilled laborers or service workers was defined as low-skill. A labor-intensive activity was defined as one with at least 20 percent of its total wage bill spent for materials, supplies, and equipment. A more detailed description of the resulting clusters is given in Appendix 4C and in Jones.

Findings

As noted earlier in this Chapter, the net employment effects of these job-creation projects/activities will depend on: the size of the offsite (i.e., direct, indirect, and induced) employment effect and the rate of substitution. Table 4.4 summarizes our findings according to the labor intensity and the skill intensity of the clusters. Details appear in Appendix 4D.

TABLE 4.2

TYPE OF SERVICES RENDERED

		No. of Activities
Cluster 1 -- Staff Support & Educational Services		51
Educational Services		13
Office Supplies for Staff Support		28
Police and Guard Protection Services		3
Social Services		4
Health Services		3
Cluster 2 -- Building and Heavy Construction		38
Office Building Construction	Building Construction	18
Public Housing Construction		1
Highway Construction	Heavy Construction	7
Sewer Line and Plant Construction		7
Large Multiple Purpose Projects		1
Dams, Levees, Dikes, Flood Control Structures		1
Dredging		1
Powerhouse Construction		1
Local Flood Protection		1
Cluster 3 -- Maintenance and Repair Construction		26
Maintenance and Repair Construction		15
Material Handling Machinery Equipment		1
Apparel		2
Motor Vehicle Equipment		4
Miscellaneous Manufacturing		1
Food & Kindred Products		2
Health Services		1

TABLE 4.3

NUMBER OF ACTIVITIES BY TYPE OF CLUSTER

	Labor Intensive	Nonlabor Intensive	Total
Cluster 1	48	3	[51]
High-Skill Level	22	3	25
Low-Skill Level	26	0	26
Cluster 2	0	38	[38]
High-Skill Level	0	24	24
Low-Skill Level	0	14	14
Cluster 3	12	14	[26]
High-Skill Level	2	5	7
Low-Skill Level	10	9	19

TABLE 4.4

SUMMARY OF TOTAL EMPLOYMENT EFFECTS AND DETERMINANTS OF THESE EFFECTS BY TYPE OF CLUSTER

	Number of Jobs Created		Ratio (R), Offsite to Onsite Jobs	Rate of Substitution	Net Jobs Created	
	Onsite (1)	Offsite (2)	(3)	(4)	Optimistic Assumption (5)	Pessimistic Assumption (6)
All Clusters	2,741	4,631	1.69	.52	7,372	3,539
Labor Intensive	1,856	1,344	0.72	.54	3,200	1,474
Low-Skill	725	794	1.10	.57	1,519	653
High-Skill	1,131	549	.49	.51	1,680	821
Nonlabor Intensive	885	3,290	3.72	.49	4,175	2,160
Low-Skill	372	608	1.63	.45	980	539
High-Skill	513	2,682	5.23	.51	3,195	1,614

Source: Jones

Note: Totals may not add because of rounding error.

Onsite employment is presented in column (1). This statistic is derived from the data on activities summarized in Chapter II and represents the number of jobs that would be created onsite in the absence of fiscal substitution. Similarly, the offsite (i.e., direct, indirect, and induced) employment summarized in column (2) represents the number of jobs that would be created offsite by these clusters in the absence of fiscal substitution.[1] The ratio of offsite to onsite jobs (R) summarized in column (3) indexes the employment creation potential of these clusters in the absence of substitution. From this column, it is apparent that the employment creation potential of an onsite slot varies systematically among clusters. Other things equal, this potential is higher for nonlabor-intensive clusters and, for given labor intensity, for high-skill clusters. The job-creation potential of onsite jobs in nonlabor-intensive, high-skill projects is particularly striking; each onsite job created is capable of generating an additional 5.23 jobs offsite. This is somewhat higher than similar employment estimates derived by other studies for similar types of projects.[2] Column (4) summarizes rates of fiscal substitution among the clusters. Examination of this column reveals that our estimate of substitution is 52 percent when averaged over all clusters; it ranges from a low of 45 percent for low-skill, nonlabor-intensive clusters to a high of 57 percent for low-skill labor-intensive clusters.

The total job-creation potential estimated under the most optimistic assumption (i.e., either that there is no fiscal substitution or, if there is fiscal substitution; that the freed local funds are ultimately spent through tax cuts or expenditures on other activities) is produced for each cluster by multiplying column (1), onsite job-creation, by (1 + R). This number is summarized in column (5).

Under this scenario, we estimate that a total of 7.3 million jobs can ultimately be created by the 114 activities used in this analysis (column 5). Of these, the largest number, 3.2 million, will ultimately be created by labor-intensive, high-skill projects even though they produce the next-to-lowest number of onsite jobs. This reflects the unusually large value of R found for this cluster. Labor-intensive activities that use low skills are of particular interest to policy analysts because of the increased targeting emphasis given to low-skill workers in public job-creation programs recently. They ultimately produce 2.5 million jobs.

Total job-creation potential estimated under the most pessimistic assumption (i.e., that there is substitution and that the local funds that are released do not get spent) is summarized in column (6). This number is derived by multiplying column (5), the total job-creation estimate under the most optimistic assumption, by column (4), the rate of fiscal substitution.[1] By adjusting for fiscal substitution, we find that, even under the most pessimistic assumption, total job-creation will reach 3.5 million. Of this number, approximately 1.2 million jobs will be created by clusters containing projects that primarily use low-skill workers.

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[1] It is interesting to note the systematic way in which the offsite jobs are distributed among clusters. (Appendix IVD.) Over ninety percent of the offsite jobs for clusters that are labor intensive are induced (rather than direct and indirect). The comparable figure for clusters that are not labor intensive is slightly more than forty percent. This is not surprising, considering that direct and indirect employment effects arise from expenditures on nonlabor inputs.

[2] Vernez, et al., report employment multipliers ranging between 3.7 and 4.0 for three particular types of public works projects--sewer plants, flood protection, and federal office buildings. Vernez, et al., pp. 157-162.

Given our estimate of the total number of jobs created under alternative assumptions about the impact of fiscal substitution, we can derive estimates of the average costs of job-creation (i.e., the cost per job created) for each cluster. These average costs are summarized in Table 4.5. The cost averaged over all clusters ranges between $5,800 and $12,100 per job created, depending on the assumption made about the impact of fiscal substitution. These costs are about 15 to 30 percent higher for labor-intensive clusters than for clusters that are not labor intensive. The cluster that produces jobs at the highest cost is the labor-intensive cluster using high skills. Average costs of job-creation by activities in this cluster range from $8,000 to $16,500.

Table 4.6 summarizes the occupational distribution of the jobs created by these 114 projects. The distributions are presented for all jobs and separately for onsite and offsite jobs. Offsite jobs are further disaggregated into offsite jobs created by direct and indirect expenditure effects and offsite jobs created by induced expenditure effects.

We find that 18.2 percent of the jobs created both onsite and offsite are professional jobs, 17.5 percent are service jobs, 15.9 percent are jobs for operatives, 13.8 percent are clerical, and 12.8 percent are crafts jobs. Only one-fourth of the combined onsite and offsite jobs can be filled by the relatively low-skill laborers and service workers.

There is a notable difference between onsite and offsite jobs in how they are distributed by occupation. Almost one-third of the onsite jobs, but only ten percent of the offsite jobs, are professional jobs. Similarly, almost thirty percent of the onsite jobs, but only ten percent of the offsite jobs, are for service workers. Low-skill occupations (i.e., laborers and service workers) comprise over 40 percent of the onsite jobs, but only fifteen percent of the offsite jobs. Given the difference, it can be concluded that inferences about targeting cannot necessarily be drawn from information about onsite skill distributions.

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[1] In using this method of adjusting our employment figures for substitution, we are implicitly assuming that labor and nonlabor inputs are reduced equiproportionately and that average wages do not vary much among clusters. The latter assumption is most questionable, particularly for clusters classified by skill requirements. High-skill projects will have higher average wages than low-skill projects. Thus, this method probably overstates employment potential for high-skill projects and understates it for low-skill projects.

TABLE 4.5

ESTIMATED COST PER JOB CREATED BY TYPE OF CLUSTER

	Total Costs (in billions of dollars)	Number of Jobs Created (in thousands)		Cost per Job Created	
		Optimistic Assumption	Pessimistic Assumption	Optimistic Assumption	Pessimistic Assumption
All Clusters	42,830	7,372	3,539	5,810	12,102
Labor Intensive	19,932	3,200	1,474	6,229	13,522
Low-Skill	6,409	1,519	653	4,219	9,815
High-Skill	13,523	1,680	821	8,049	16,471
Nonlabor Intensive	22,898	4,175	2,150	5,482	10,650
Low-Skill	5,541	980	539	5,654	10,280
High-Skill	17,357	3,195	1,614	5,433	10,754

Sources:

Total costs: Rubenstein, Appendix C
Jobs created: Supra, Table 4.4

Note: Totals may not add because of rounding error.

TABLE 4.6

DISTRIBUTION OF JOBS CREATED BY OCCUPATION AND SOURCE OF JOB-CREATION
(in percent)

	Onsite	Offsite			Onsite Plus Offsite
		Total	Direct and Indirect	Induced	
Total	100.0	100.0	100.0	100.0	100.0
Professional, technical, and kindred	30.5	10.3	7.1	12.7	17.8
Managers, officials, and proprietors	1.9	12.4	13.0	11.9	8.5
Sales	0	9.5	10.6	8.6	6.0
Clerical and kindred	6.4	17.9	16.4	19.0	13.8
Craftsmen, foremen, and kindred	13.4	12.2	15.7	9.6	12.8
Operatives and kindred	4.1	21.4	23.9	19.5	15.0
Laborers	16.2	4.2	5.3	3.3	8.7
Service workers	27.5	10.8	7.7	13.2	17.0
Farmers	0	1.4	0.2	2.2	0.9

Source: Appendix IVE

Table 4.7 summarizes the educational distribution of the jobs created by these activities. The distributions are again presented for all jobs and separately for onsite and offsite jobs. Offsite jobs are again further disaggregated into offsite jobs created by direct and indirect expenditure effects and offsite jobs created by induced expenditure effects.

Since the education distributions are derived from the occupation distributions, it is not surprising that our findings are similar to those summarized above for the occupational distribution.[1] We find that 36 percent of the jobs created both onsite and offsite can be filled both by workers who have not completed high school (hereafter referred to as "high school dropouts"), 35 percent by high school graduates, and 28 percent of the jobs require at least some post-high school education.

There is again a notable difference between onsite and offsite jobs in how they are distributed by education. Fully 39 percent of the onsite jobs, but only 36 percent of the offsite jobs can be filled by high school dropouts; 30 percent of the onsite jobs, and 39 percent of the offsite jobs can be filled by high school graduates; and 31 percent of the onsite jobs, but only 25 percent of the offsite jobs require workers with some post-high school education. Again, given these differences, inferences about targeting effectiveness cannot necessarily be drawn from information about onsite education distributions.

Summary

To estimate the total job-creation potential of the 115 projects discussed in Chapter II, we had to augment onsite employment with jobs created offsite through purchases of nonlabor materials and through second-round effects induced by further consumption expenditures by those employed (both onsite and offsite) as a result of the total expenditure on the job-creation programs. We also had to adjust the job-creation estimates for the possible effects of fiscal substitution. We were able to make these two sets of adjustments for 114 of the 115 activities identified in Chapter II.

Offsite effects were estimated using sequential simulation model based on a set of input-output modules developed by Golladay and Haveman. The total job-creation estimates were classified alternatively by occupation and by education in order to assess potential skill imbalances that might arise from implementation of these activities.

We allocated the nonwage costs of each activity among industrial sectors (in order to derive offsite job-creation estimates) and we made crude activity-by-activity estimates of the rate of fiscal substitution.

The 114 activities were aggregated into nine clusters, classified according to the industrial distribution of nonwage expenditures, labor intensity, and skill intensity of the projects. The analysis in this Chapter focused

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[1] Appendix IVF contains the distribution of education by occupation used to generate the education distributions summarized in Table 4.7.

TABLE 4.7

DISTRIBUTION OF JOBS CREATED BY EDUCATION AND SOURCE OF JOB-CREATION

Years of School Completed	Onsite	Offsite			Onsite Plu Offsite
		Total	Direct and Indirect	Induced	
Less than or equal to 8 years	18.2	15.1	15.7	14.8	15.9
9-11 years	20.9	20.6	21.2	20.1	20.5
12 years	29.9	39.0	40.0	38.4	35.5
13-15 years	12.6	13.8	13.4	14.1	13.5
16 years or more	18.3	11.5	9.9	12.6	14.6

Source: Appendices IVF, IVG.

on the labor intensity and the skill intensity dimensions of the clusters. Total employment effects were generated under two alternative assumptions about the impact of fiscal substitution: (1) that there was either no fiscal substitution, or if there was, that the resources freed by fiscal substitution were spent (through tax cuts or other public expenditures) as they would have been if there had been no substitution; and (2) that there is fiscal substitution and the freed resources are not spent. The former assumption was dubbed the "optimistic assumption" and the latter the "pessimistic assumption." Our findings are as follows:

- Depending on assumptions made about the impact of fiscal substitution, total job-creation (both onsite and offsite) from the 114 projects used in this analysis can range from 3.5 million to 7.3 million jobs. Of these, roughly 2.2 million to 4.6 million would be offsite jobs.

- The cost per job created ranges from $5,800 to $12,100 depending on the assumptions made about the impact of substitution. These costs are about 15 to 30 percent higher for labor-intensive clusters.

- Employment multipliers average 1.69, suggesting that 169 total jobs can be created for every 100 new onsite jobs. This multiplier varies substantially among clusters, ranging from a low of 0.5 for labor-intensive, high-skill clusters, such as staff support in the education and criminal justice areas, to a high of 5.23 for nonlabor-intensive, high-skill clusters, such as public works.

- The rate of substitution assumed for all clusters was 0.52. It ranged from a low of 0.45 for nonlabor-intensive low-skill clusters to a high of 0.57 for labor-intensive, low-skill clusters.

- Activities utilizing relatively large amounts of low-skill labor were able to provide 1.2 million to 2.5 million onsite and offsite jobs.

- About one-fourth of the jobs created by all activities could be filled by low-skill labor (i.e., laborers and service workers). However, the skill distribution of these jobs, measured in terms of occupation, differs between jobs created onsite and jobs created offsite. About two-fifth of the onsite jobs, but only 15 percent of the offsite jobs can be filled by low-skill labor.

- The skill distribution of these jobs, measured in terms of education, does not differ quite so dramatically. Approximately 35 percent of the jobs created both onsite and offsite can be filled by workers who did not complete high school. However, there is a notable difference between onsite and offsite distributions in percentage requiring completion of high school. Only 30 percent of the onsite jobs, but over 39 percent of the offsite jobs, required completion of 12 years of schooling.

V. THE SUPPLY OF SKILLS AVAILABLE FOR NEWLY-CREATED PUBLIC JOBS

Introduction

The feasibility of public job-creation programs depends in part on whether the skills required by the jobs created match the skills available from the target groups at which these programs are aimed. The potential for rapid job-creation without extensive training becomes less feasible when skills required exceed skills available. Under these conditions of excess demand, upward pressure may be exerted on wage rates that may ultimately result in upward pressure on prices. This type of inflationary impact would constitute an additional cost of a public job-creation program that could reduce its feasibility. Chapter IV described methods and findings from our analysis of skills required by the projects/activities identified. This Chapter summarizes findings from our study of skills available.[1]

Estimates of skill availability are presented in the form of the size of alternative target groups for job-creation programs. In the case of the unemployed, the numbers in these target groups are further translated into full-year-equivalents of jobs required to meet their employment needs on the basis of estimates of duration of unemployment to make them comparable to the estimates of job-creation displayed in Chapter IV. Lacking such information for other target groups, we cannot present similar estimates of job-creation demand for them without making arbitrary assumptions. To develop such estimates, we arbitrarily assume that one job will be necessary for each two members of these other target groups.

Scope and Methods

The characteristics of the workers to be placed in these jobs depends critically on the type of targeting envisioned for the public job-creation program. Examination of the recent history of such programs reveals a schizophrenic policy in which the emphasis has shifted back and forth between structural and countercyclical objectives.[2] Recent changes in the CETA legislation and new policy initiatives, in the form of the jobs component of the Program for Better Jobs and Income, the Carter Administration's welfare reform package, have shifted the existing (and proposed) job-creation programs, reducing the emphasis on countercyclical objectives and strengthening their structural objectives (Fechter, 1978).

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[1] More details about methods and findings discussed in this Chapter may be found in Thorpe, 1978.

[2] The countercyclical program aims at providing jobs for the unemployed, regardless of skills and labor market handicaps, whereas the structural program aims at providing jobs for those workers who, regardless of employment status, are believed to have significant and severe labor market handicaps because of their lack of skills.

To distinguish between structural and countercyclical programs, we present estimates under alternative aggregate demand assumptions, approximated by aggregate unemployment rates. The structural scenario is represented by the year 1973, when the unemployment rate was 4.9 percent. The countercyclical scenario is based on the year 1975 when the unemployment rate was 8.5 percent.[1] We have aged these estimates to 1978 levels[2] to control for trend effects.

We first focus our attention on the unemployed as a target group and present estimates of both the number who are unemployed at any time during the preceding year and the amount of job-creation required to meet their employment needs.[3] Specific estimates are also presented for the long-term

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[1] The nearest peak of the business cycle for the period was November 1974; the nearest trough was March 1975. Because of resource constraints, we have confined ourselves to only one countercyclical scenario. In principle, alternative scenarios can be estimated for years in which unemployment rates were less than 8.5 percent, but more than 4.9 percent.

[2] Initially, we used age-sex specific population multipliers for 1973 and 1975. However, in our final analysis, we use an average multiplier for each year.

Population Multipliers for Persons
14-65 Years Old in the U.S., from 1973
and 1975 to 1978, by Sex

	Age	1973	1975
Male:			
	14-24 years old	1.067	1.024
	25-44 years old	1.147	1.086
	45-65 years old	1.008	1.007
Female:			
	14-24 years old	1.065	1.024
	25-44 years old	1.138	1.085
	45-65 years old	1.017	1.006

Source: U.S. Bureau of the Census, Current Population Reports, Series P-25, N.601, "Projections of the Population of the United States: 1975-2050," U.S. Government Printing Office, Washington, D.C., 1975, Table 7, pp. 41-44. U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 381, "Projections of the Population of the United States by Age and Sex to 2015," U.S. Government Printing Office, Washington, D.C., 1967, Table 8, pp. 70-75.

[3] Estimates of unemployment based on this definition are expected to be larger than estimates based on commonly-used definition of unemployment, which is based on labor market experience in the week preceding the survey, because of the considerable amount of turnover experienced in labor markets during a year. The former estimates are generally three to four times larger than the latter estimates. Since the job-creation under study in this report is aimed in part at meeting the employment needs of members of particular unemployed target groups who experience unemployment, we believe that estimates of jobs required to meet these needs should be based on prior-year estimates of unemployment since they include all persons who experience some unemployment and since they allow us to determine the duration of a completed spell of unemployment.

unemployed. Our estimate of the long-term unemployed--those who were unemployed for 13 weeks or more, on average--considers a characteristic of unemployment (duration) that is explicitly incorporated in current public job-creation legislation.[1] The jobs required to meet the employment needs of unemployed workers are also displayed by skill level (proxied by education and occupation).

We then turn our attention to other possible target groups that have been considered, but have not been explicitly incorproated in current public job-creation programs--the "hidden" unemployed[2] and the underemployed.[3] Estimates for these target groups are displayed only in terms of numbers of workers since available data do not permit us to translate these numbers into appropriate job estimates. Estimates of these numbers are also displayed in terms of skill (i.e., education and occupation) in order to give the reader some sense of the types of jobs that will be necessary to meet the employment needs of these target groups. Looking to the future, we then present estimates of the number who would, in 1981, be eligible for, and willing to accept, low-wage jobs under the Carter Administration's Program for Better Jobs and Income.

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[1] The current criteria for eligibility under Title VI of the Comprehensive Employment and Training Act of 1973 (CETA) include individuals who are members of households which have current gross family income (adjusted to an annual basis) that is less than 70 percent of the lower living standard income level, or require that the individual:

(1) has been receiving unemployment compensation for fifteen or more weeks;
(2) is not eligible for such benefits and has been unemployed for fifteen or more weeks;
(3) has exhausted unemployment compensation benefits; or
(4) is part of a family which is receiving aid to families with dependent children.

Lower living standard income level is defined as the income level determined annually by the Secretary based upon the most recent "lower living standard budget" issued by the Bureau of Labor Statistics of the Department of Labor.

[2] The hidden unemployed are defined as workers who report themselves to be out of the labor force, rather than unemployed, but who would be willing to take a job if one were offered to them. This group of workers--frequently referred to as "discouraged workers" because their motivation to leave the labor force stems from poor job prospects--is generally included in principle, if not in practice, in most definitions of target groups for public job-creation programs.

[3] The underemployed are defined as workers who were employed part-time for economic reasons in the week prior to the survey. This group is not mutually exclusive with our previous groups--that is, those who were unemployed for any length of time during the previous year--and could therefore result in an upward bias in our estimate of skill availability. However, the overlap of these two types of workers is small, amounting to a little more than 6 percent in both employment scenarios, implying that the bias is relatively small.

Findings

Table 5.1 summarizes key aspects of our findings: the amount of job-creation required and the sensitivity of this job-creation requirement to labor market conditions for the following selected target groups:

- the unemployed,
- the "hidden" unemployed,
- the underemployed,
- potential welfare reform participants.

Job-creation requirements are expressed, where feasible, in terms of the number of year-round, full-time equivalents to make them consistent with the estimates of jobs created summarized in Chapter IV. Major conclusions that can be drawn from this table are:

- The total unemployed, the single most important target group, numbers from 12.4 to 17.9 million, depending on the rate of unemployment.
- The number of jobs necessary for these workers would range between 2.5 and 4.6 million jobs.
- If targeting is restricted to the long-term unemployed, then the size of the target group shrinks dramatically to a range of 2.4 to 6.0 million workers.
- The number of jobs necessary for these workers would range between 1.3 and 3.1 million jobs, depending on the rate of unemployment.
- In addition to the unemployed, we estimate that there are approximately 1.3 to 1.6 million "hidden" unemployed who could constitute a target group for publicly-created jobs.[1]
- We also estimate that there are 2.8 to 3.5 million workers who are involuntarily employed part-time because they are not able to find full-time jobs. These "underemployed" workers could also be a target for publicly-created jobs.

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[1] This estimate is slightly higher than comparable estimates derived from the Consumer Population Survey and published by the Bureau of Labor Statistics. The BLS estimate was 0.7 million in 1973 and 1.1 million in 1975--roughly 30 to 50 percent below our estimate. The difference can be attributed to differences in methods used to derive the estimates. BLS bases its estimate on a response to a survey question. Our estimate is based on the parameters of an econometric model. See Thorpe, 1978, for further details.

TABLE 5.1

NUMBER OF WORKERS AND FULL-YEAR-EQUIVALENTS IN SELECTED TARGET GROUPS IN 1978 AT ALTERNATIVE RATES OF UNEMPLOYMENT[a]

	Size of Population[b]		Full-year-equivalents[b]	
	UNEMPLOYMENT RATE EQUALS:		UNEMPLOYMENT RATE EQUALS:	
Target Group	4.9 percent	8.5 percent	4.9 percent	8.5 percent
Unemployed				
All	12.4	17.9	2.5	4.6
Long-term[c]	2.5	6.0	1.2	3.1
"Hidden" Unemployed[d]	1.3	1.6	0.65	0.8
Underemployed[e]	2.8	3.5	1.4.	1.75
Welfare Reform Participants[f]	3.2		1.8	

Notes:
- a. Unemployment rates are annual averages of monthly rates, based on 1973 and 1975 experience.
- b. In millions.
- c. Includes unemployed workers with more than 13 weeks of unemployment in prior year.
- d. Defined as workers who are not in the labor force because of poor employment prospects.
- e. Defined as part-time employed workers who would like to work full-time.
- f. Estimates are for the year 1981 and assume an unemployment rate of 5.6 percent.

Source: Thorpe, 1978.

- If we estimate that one public job will have to be created for every two workers classified as "hidden" unemployed or underemployed,[1] then an additional 2.0 to 2.5 million jobs would have to be created to meet the employment needs of these target groups.

- Finally, we estimate, based on Labor Department tabulations,[2] that in 1981 there would be about 3.2 million persons who would be willing to work in approximately 1.8 million publicly-created minimum-wage jobs. These persons would constitute the target group for publicly-created jobs under the Program for Better Jobs and Income.

Table 5.2 summarizes characteristics of a "structural" program. We have arbitrarily defined these characteristics as the amount of public job-creation required and the characteristics of the target groups at an unemployment rate of 4.9 percent.[3] Such a program would have the following characteristics:

- It would have to create 2.5 million jobs for 12.4 million unemployed workers, if all unemployed were considered the target group.

- It would have to create only 1.2 million jobs for 2.5 million workers if targeting was focused on the long-term unemployed.

- Assuming one public job would have to be created for every two hidden unemployed or underemployed workers, an additional 2.05 million jobs would have to be created to meet the employment needs of the 4.1 million workers in these target groups.

- Roughly two-fifths of the unemployed and the hidden unemployed would be workers who had not completed high school.

- A slightly larger fraction (one-half) of the underemployed and those who would be willing to accept minimum-wage jobs would be workers who had not completed high school.

- Only one-tenth of the unemployed and 15 percent of the underemployed workers would be unskilled blue-collar laborers.

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1. This estimate assumes: (a) the hidden unemployed have about the same duration of unemployment as the long-term unemployed (i.e., 37.5 weeks); and (b) the underemployed work an average half-time (20 hours per week) for 52 weeks but would like to work full-time (40 hours per week). The job-creation requirement for the underemployed therefore only fills in the gap between their actual work experience and their derived work experience.

2. We are indebted to Gary Reid, Department of Labor, ASPER for providing us this tabulation.

3. Existing estimates of the minimum rate of unemployment attainable through macroeconomic measures without causing an intolerable acceleration in the rate of inflation range upward from 4.75, depending on assumptions about the demographic composition of the labor force.

TABLE 5.2

JOB-CREATION REQUIREMENTS AND SKILL CHARACTERISTICS OF SELECTED TARGET GROUPS FOR A STRUCTURAL[a] PUBLIC JOB-CREATION PROGRAM IN 1978

Target Group	Number of Jobs[b]	Number of Workers[b]	Percent High School Dropout	Percent Unskilled[h]	Percent Semiskilled and Skilled[i]	Percent White-Collar[j]	Percent Service Workers
Unemployed							
All	2,483	12,449	39	11	36	33	17
Long-Term[c]	1,238	2,492	40	10	36	34	18
"Hidden" Unemployed[d]	626	1,253	39	11	36	33	17
Underemployed[e,g]	1,416	2,831	47	9	37	25	18
Welfare Reform Participants[f]	1,813	3,237	49	n.a.	n.a.	n.a.	n.a.

Notes

a. Based on unemployment rate of 4.9 percent in 1978.
b. In thousands.
c-f. See notes, Table 5.1.
g. Includes about 6 percent inexperienced workers.
h. Defined as the Census major occupation class, non-farm laborers.
i. Defined as the two Census major occupation classes: operatives, and craft and kindred workers.
j. Defined as the four Census major occupation classes: professional and technical, managers and administrators, sales workers, and clerical workers.
n.a. Not available.

Source: Thorpe, 1978.

- Approximately 36 percent of these target groups would be semi-skilled and skilled blue-collar laborers.

- Roughly one-third of the unemployed and one-fourth of the under-employed would be white-collar workers.

- Approximately one-sixth of these target groups would be service workers.

Table 5.3 summarizes characteristics of available supply for a particular countercyclical program--one in which the unemployment rate increases from 4.9 percent to 8.5 percent, a 3.6 percentage point change. Clearly, these characteristics--particularly, the number of additional jobs required and the number of additional workers in the target group--may differ substantially for alternative changes in unemployment rates. The particular countercyclical program summarized would have the following characteristics:

- It would have to create an additional 2.1 million jobs for an additional 5.5 million unemployed workers if all unemployed were considered the target group.

- It would have to create an additional 1.8 million jobs for an additional 3.6 million workers if targeting was focused only in the long-term unemployed.

- Assuming one public job would be necessary for every two hidden unemployed or underemployed workers, 0.5 million more additional jobs would have to be created to meet the countercyclical employment needs of the additional 1.0 million workers in these target groups.

- The educational characteristics--particularly, the percent who did not complete high school--would differ from the structurally employed displayed in Table 5.2; fewer, approximately 30 to 37 percent, would be workers who had not completed high school.

- A slightly smaller proportion of the countercyclical target group would be unskilled blue-collar workers.

- About one-half of the unemployed but only one-eighth of the under-employed would be semi-skilled and skilled blue-collar workers.

- A slightly smaller proportion of the countercyclical unemployed would be white-collar or service workers. However, almost two-fifths of the underemployed would be service workers.

The implications of these estimates of skill availability for the feasibility of large-scale public job-creation are examined in Chapter VI by comparing them to the estimates of the total skill requirements generated by the 114 projects identified earlier.

TABLE 5.3

JOB-CREATION REQUIREMENTS AND SKILL CHARACTERISTICS OF SELECTED TARGET GROUPS FOR A COUNTERCYCLICAL[a] PUBLIC JOB-CREATION PROGRAM IN 1978

Target Group	Number of Additional Jobs[b]	Number of Additional Workers[b]	Percent High School Dropout	Percent Unskilled[g]	Percent Semiskilled and Skilled[h]	Percent White-Collar[i]	Percent Service Workers
Unemployed							
All	2.1	5.6	32	7	50	27	14
Long-Term[c]	1.8	3.6	37	10	50	27	11
"Hidden" Unemployed[d]	0.15	0.3	29	5	55	25	13
Underemployed[e,f]	0.35	0.7	31	9	12	23	38

Notes

a. Based on unemployment rate from 4.9 to 8.5 percent.
b. In millions.
c-e. See notes, Table 5.1.
f-i. See notes g-j, Table 5.2.

Source: Thorpe, 1978.

VI. ASSESSING POTENTIAL SKILL IMBALANCES

The feasibility of large-scale public job-creation depends in an important way on whether or not there will be an adequate supply of workers available to fill the jobs created. Circumstances under which the number of jobs created exceeds this supply can give rise to employment bottlenecks that create upward pressure on wage rates and, ultimately, to similar pressure on prices. The existence of such bottlenecks would require careful selection of projects to be undertaken in order to minimize their potential inflationary effects.

This Chapter assesses the potential for employment bottlenecks. National estimates of "demand" for labor created by the onsite and offsite employment effects discussed in Chapter IV are compared to national estimates of "supply" of labor available from the target groups discussed in Chapter V. Since national estimates are being compared, the findings are not applicable to any particular local area.

The comparisons are broken down by aggregates of project-clusters and target groups, and are presented separately for a structural program that would operate at relatively low rates of unemployment (4.9 percent) and for a combination structural-cyclical program that would operate at higher levels of unemployment (in this case, 8.5 percent). Recall that in Chapter IV we displayed job-creation estimates separately for alternative assumptions about fiscal substitution and its impact. Only estimates for the "optimistic" assumption--that all job-creation funds are ultimately spent are displayed in this Chapter--for ease in exposition and since it is the more reasonable assumption for long-run impact analysis. This assumption produces the largest possible "demand" for labor and, accordingly, will tend to make our findings about feasibility relatively conservative since it is likely to result in a larger number of employment bottlenecks.

Further recall that the estimates of job-creation ("demand" for labor) reported in Chapter IV were made for only 114 of the 233 activity areas identified earlier in Chapter II and are, therefore, biased downward by a substantial amount. This bias will tend to make our findings about feasibility more liberal than they would have been had we been able to estimate the job-creation potential of all 233 activity areas. Employment bottlenecks are less likely to appear for 114 activities than for 233 activities.

Finally, it is difficult to draw inferences about feasibility from occupational comparisons for narrowly-focused target groups. An insufficient "supply" of professionals and managers in a low-skill target group, for example, does not necessarily render a particular project-cluster infeasible since that supply is likely to be available predominantly from outside the target group.

Because of these biases and others implicit in our estimates of "supply" and "demand", and the difficulty in drawing inferences from occupational comparisons for narrowly-focused target groups, the analysis presented in this Chapter should be considered crude and quite tentative.

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We find that the 114 activities used to estimate "demand" are capable of generating more than enough jobs to meet the employment needs of any particular target group in a structural-cyclical program and, a fortiori, in a structural program. In both cases, bottlenecks are distributed across all occupations. This suggests that any attempt to implement all of these activities is likely to produce employment bottlenecks; therefore, a judicious selection from among them would be desirable.

We also find that the particular subsets of clusters examined here are suitable for certain target groups. The labor-intensive clusters create a "demand" that roughly balances with the "supply" available from the long-term unemployed for the particular structural-cyclical program examined in this study (i.e., one that would be operating at an unemployment rate of 8.5 percent). It creates roughly 700,000 jobs more than would be necessary to provide jobs for all observed unemployed workers in a structural program. The bottlenecks in this program are in the white-collar occupations--professional-managerial and clerical-sales. Similarly, the low-skill clusters create about 800,000 jobs more than is necessary to provide jobs for all low-skill unemployed workers in the structural-cyclical programs and roughly a sufficient number of jobs necessary to provide work for all observed unemployed in the structural program. Bottlenecks also appear for white-collar workers in this target group, but these can be eliminated if workers in these occupations are drawn from the pool of all observed unemployed. Finally, the low-skill, labor-intensive clusters create enough jobs to provide a rough balance with the "supply" available from the low-skill unemployed in the structural program. Here again, bottlenecks appear for white-collar occupations when "supply" is confined to the low-skill or the long-term unemployed, however, these occupational bottlenecks can again be allleviated by drawing from the larger pool of unemployed workers.

Aggregate Findings

Table 6.1 summarizes our earlier findings. We reported in Chapter IV that, depending on the assumption made about fiscal substitution and the disposition of local funds released by such substitution,[1] anywhere from 3.5 million to 7.4 million jobs could be created both onsite and offsite by the 114 projects analyzed. Hereafter, this job-creation will be referred to as "demand." Table 6.1 summarizes this demand for all clusters as well as for particular subsets of clusters--labor-intensive projects, low-skill projects, and labor-intensive, low-skill projects. Demand in the subsets of clusters is considerably lower, ranging from 0.6 to 3.2 million.

We reported in Chapter V that, depending on the level of aggregate demand and the tightness of the targeting, up to 7.1 million jobs would have to be

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[1] Recall that we defined an "optimistic assumption"--in which there is either no substitution or, if there is, the resources freed are ultimately spent (through tax reductions or other public expenditure) as they would have been had there been no public job-creation program--and a "pessimistic assumption"--in which there is substitution and the freed resources are not spent.

TABLE 6.1

"DEMAND" FOR JOBS BY TYPE OF CLUSTER AND SUBSTITUTION ASSUMPTION AND "SUPPLY" OF WORKERS BY TARGET GROUP AND TYPE OF PROGRAM

"Demand" (in millions)

	Substitution Assumption	
Type of Cluster	Optimistic	Pessimistic
All Clusters	7.4	3.5
Labor-intensive	3.2	1.5
Low-skill	2.5	1.2
Low-skill, Labor Intensive	1.5	0.6

"Supply" (in millions)

	Type of Program	
Target Group	Structural-cyclical	Structural only
Total, Unemployed and Underemployed	7.1	4.5
All Observed Unemployed	4.6	2.5
Long-term Unemployed	3.1	1.2
All Low-skill Unemployed	1.7	1.[illegible]
Low-skill, Long-term Unemployed	1.2	0.5

created for the target groups for the program. Hereafter, these job requirements will be referred to as "supply." Supply would be considerably smaller for a structural program (no more than 5.7 million) or for smaller target groups (e.g., 1.3 million to 3.1 million jobs for the long-term unemployed). Estimates of supply (derived from Chapter V) are therefore presented for alternative target groups--low-skill unemployed, long-term unemployed, all unemployed, and all unemployed plus hidden unemployed and underemployed workers--and types of programs: (1) a structural program assumed to operate even during periods of high aggregate demand; and (2) a countercyclical program expected to trigger on when aggregate demand falls from levels considered to be "full employment."[1]

Note again that these estimates of supply assume all members of the target group would apply for the jobs created by the program. The actual application rate will depend on such factors as the wage rate paid by these jobs, work conditions, and expected returns to not applying for these jobs. At present, little is known about the determinants of application rates to public job-creation programs. It is entirely possible that the target groups examined here will understate the actual demand for these jobs since, under the appropriate conditions, the program might induce people who are currently employed in private sector jobs or who are out of the labor force to apply for jobs also.[2]

We begin our analysis of feasibility by comparing aggregate supply available from alternative target groups to aggregate demand created (both onsite and offsite) by alternative combinations of project-clusters. Looking first at supply for a structural and countercyclical program combined--a program that would require a relatively large number of jobs to meet the employment needs of its target groups--Table 6.2 summarizes our comparisons for an unemployment rate of 8.5 percent, a relatively high rate given the performance of the economy in recent years.[3]

The table contains estimates of the difference between supply for a particular target group and demand created by a particular set of project-clusters. A positive number implies that the project-cluster has not created enough aggregate jobs and a negative number suggests that the project-cluster has created too many aggregate jobs. For this analysis, we assume that a difference of less than 0.5 million can roughly be considered a situation of balance between aggregate demand and aggregate supply.

When all clusters are considered, a balanced program appears attainable for the target group designated total unemployed and underemployed. When the smaller set of labor-intensive clusters are considered, a rough balance is

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[1] The structural estimates assume an unemployment rate of 4.9 percent; the countercyclical program is based on an unemployment rate of 8.5 percent.

[2] For an interesting simulation study of the potential supply of applicants to a low-wage public job-creation program, see Greenberg.

[3] This would appear to be an upper bound on what might be expected in the future. Lower rates of unemployment will probably produce smaller job-requirements and will alter our comparisons accordingly.

TABLE 6.2

ESTIMATED AGGREGATE IMBALANCES[a] FOR ALTERNATIVE TARGET GROUPS BY TYPE OF CLUSTER, STRUCTURAL-CYCLICAL PROGRAM,[b] AND OPTIMISTIC FISCAL SUBSTITUTION ASSUMPTION[c]

	All Clusters	Labor-intensive	Low-skill	Low-skill, Labor-intensive
Total unemployed and underemployed[d]	-0.3	+3.9	+4.6	+5.6
Unemployed only				
All	-2.8	+1.4	+2.1	+3.1
Long-term	-4.3	-0.1	+0.6	+1.6
Low-skill unemployed only				
All	-5.7	-1.5	-0.8	+0.2
Long-term	-6.2	-2.0	-1.3	-0.3

Notes

[a] Imbalance defined as difference between "supply" and "demand." Positive number means excess supply; negative number means excess demand.

[b] Unemployment rate = 8.5%.

[c] All job-creation funds ultimately spent.

[d] Includes hidden unemployed and underemployed.

struck when the target group is the long-term unemployed. Low-skill clusters can also serve the long-term unemployed, but will not be able to create enough jobs for them; an additional 600,000 jobs will be necessary to meet the job-requirements of this target group. Finally, when we narrow our focus to only the low-skill, labor-intensive cluster, a rough balance is only possible for the low-skill unemployed.

Table 6.3 compares aggregate job-requirements and aggregate job-potential for a purely structural program operating at a rate of unemployment of 4.9 percent. When all clusters are considered, the number of jobs created exceeds job-requirements for all target groups. This implies that a structural program would require judicious selection from among the 114 projects used in this analysis in order to create a rough balance between job-requirements and job-creation.

When we narrow our focus to subsets of clusters, we find that it is possible to attain a rough aggregate balance in a structural program for some target groups. Labor-intensive clusters are able to provide 700,000 jobs more than is necessary to balance with the job-requirements of all observed unemployed. A rough balance can be attained when the target group is slightly larger than all observed unemployed and is slightly smaller than total unemployed and underemployed. Low-skill clusters are able to provide enough aggregate jobs for all observed unemployed in a structural program. When we further narrow our focus to the low-skill, labor-intensive clusters, we find that a rough aggregate balance is struck for the long-term unemployed.

Analysis of Tables 6.2 and 6.3 reveals that aggregate bottlenecks, defined as an excess demand, are more likely to occur:

- when more clusters are used to create jobs,
- when target groups are more narrowly defined,
- when a structural program is being considered.

Our analysis of aggregate "supply" and "demand" narrowed the set of feasible combinations of clusters and target groups considerably. Table 6.4 pinpoints these combinations. Out of 40 possible combinations, only six appear to be feasible on the basis of the aggregate "supply" and "demand." Three are concentrated in the low-skill, labor-intensive clusters. Four are relevant to the combined structural-cyclical program. Inspection of Table 6.4 suggests that a basic structural program might be derived from the low-skill, labor-intensive clusters. These could be augmented by other low-skill or labor-intensive clusters to meet the additional requirements for job-creation imposed by the structural-cyclical program.

Analysis by Skill

The preceding section analyzed the differences between aggregate estimates, job-supply, and aggregate job-demand by cluster and target group to determine where there was a rough balance. It found that such an aggregate

TABLE 6.3

ESTIMATED AGGREGATE IMBALANCES[a] FOR ALTERNATIVE TARGET GROUPS BY TYPE OF CLUSTER, STRUCTURAL PROGRAM,[b] AND OPTIMISTIC FISCAL SUBSTITUTION ASSUMPTION[c]

	All Clusters	Labor-intensive	Low-skill	Low-skill, Labor-intensive
Total unemployed and underemployed[d]	-2.9	+1.3	+2.0	+3.0
Unemployed only				
All	-4.9	-0.7	0	+1.0
Long-term	-6.2	-2.0	-1.3	-0.3
Low-skill unemployed only				
All	-6.4	-2.2	-1.5	-0.5
Long-term	-6.9	-2.7	-2.0	-1.0

Notes

[a] Imbalance defined as difference between "supply" and "demand." Positive number means excess supply; negative number means excess demand.

[b] Unemployment rate = 4.9%.

[c] All job-creation funds ultimately spent.

[d] Includes hidden unemployed and underemployed.

balance was frequently possible when subsets of clusters were matched with particular target groups. However, while aggregate balance is desirable, it may not be sufficient to make these clusters feasible. A situation of aggregate balance may hide a considerable amount of imbalance when supply and demand for jobs are further disaggregated by skill.

The possibility of such skill imbalances is investigated below. We confine our examination to those six combinations identified in Table 6.4 as feasible on the basis of a rough balance between aggregate supply and aggregate demand. Table 6.5 summarizes our findings.

A general pattern of shortages for white-collar workers--professional-managerial and clerical-sales--and service workers emerges. The most serious imbalance, a shortage of 1.2 million, appears for professional-managerial workers when all clusters are linked with the structural-cyclical program for the total unemployed and underemployed. This shortage is almost offset by excess supplies in all other occupation groups (except clerical-sales). It is possible to alleviate all other shortages appearing for all other combinations by drawing on supplies available outside of the target group. For example, the shortage of 200,000 professional and managerial workers displayed in column (3) for all low-skill unemployed as the target group in the structural-cyclical program can be eliminated by hiring the from the pool of non-low-skill unemployed professional and managerial workers available to the program.

TABLE 6.4

SUMMARY OF FEASIBLE COMBINATIONS OF CLUSTER AND TARGET GROUPS FOR ALTERNATIVE JOB-CREATION PROGRAMS

	Type of Cluster			
Type of Program and Target Group	All clusters	Labor Intensive	Low-skill	Low-skill, Labor-intensive
Structural-cyclical				
Total unemployed and underemployed	*			
Unemployed only				
All				
Long-term		*		
Low-skill only				
All				*
Long-term				*
Structural only				
Total unemployed and underemployed				
Unemployed only				
All			*	
Long-term				*
Low-skill only				
All				
Long-term				

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* = Feasible, imbalances less than 0.5 million.

TABLE 6.5

OCCUPATIONAL IMBALANCES[1] (IN MILLIONS) FOR FEASIBLE COMBINATION OF CLUSTERS AND TARGET GROUPS

	Program-Cluster-Target Group					
	Structural-cyclical program				Structural only	
			Low-skill, labor intensive			
Major Occupation Group	All clusters, Total unemployed and underemployed	Labor-intensive Long-term unemployed	All low-skill	Long-term low-skill	Low-skill, All un-employed	Low-skill, Labor-intensive, Long-term unemployed
Professional and Managerial	-1.2	-0.8	-0.2	-0.2	+0.1	-0.1
Clerical and Sales	-0.1	+0.1	-0.1	-0.1	+0.1	+0
Crafts	+0.1	+0.2	+0.2	+0.1	+0.1	+0
Operatives	+0.6	+0.6	+0.4	+0.2	+0.2	+0.1
Laborers	+0.1	+0.1	+0	-0	-0.1	-0.1
Service Workers	0	-0.3	-0.2	-0.3	+0.2	-0.3
Farm Workers	+0.2	+0	+0	+0	+0	+0

Notes: 1. + denotes excess supply; - denotes excess demand.

Source: Appendix 6A.

VII. ADMINISTRATIVE AND OPERATIONAL ISSUES

We have argued that the feasibility of large-scale countercyclical public job-creation will depend on: (1) identifying "meaningful" tasks to be accomplished with these jobs and (2) providing adequate resources (wages, capital, high- and low-skill labor, training, and supervision) to accomplish these tasks.

These represent necessary but not sufficient conditions for a public jobs program to provide the means for large-scale expansion of public service or public works activities implemented at the local level. This Chapter discusses a broad range of administrative and operational issues that may serve to limit the potential of creating large numbers of jobs in expanding publicly supported activities.

We present seven major issues and discuss in general terms how each of these may limit the feasibility of large-scale public job-creation. These issues, drawn from the existing literature and from our discussions with officials during our site visits, include:

1. Ambiguous goals.
2. Red tape, lack of technical assistance and poor interagency coordination at the local level.
3. Lack of adequate planning due to short lead time and funding uncertainty.
4. Targeting employment opportunities.
5. Lack of resources for training and supervision, materials, supplies, and equipment
6. Pressure group problems such as private sector or union opposition.
7. Low transition to unsubsidized jobs.

Where possible, we link these issues to programs that might be rendered less feasible because of them.

Ambiguous Goals

The CETA legislation in general and the PSE program in particular have been criticized for having numerous and sometimes conflicting goals. Brandwein in his recent address to the Society of Government Economists listed 17 goals that PSE programs sought to achieve. Wiseman and Katz, in their recent paper for the National Commission for Manpower Policy, stated that local governments were having difficulty in seeking ways to meet the diverse, ambiguous, and conflicting goals of the program. Some of the major goals which PSE is currently addressing include:

- create meaningful jobs for the unemployed in a rapid manner,
- aid to city, county, and state governments to meet public needs,
- provide financial support to activities of limited duration thereby reducing "phase out" problems should the economy pick up and unemployment be reduced signficantly,
- provide needed services that otherwise would be unaffordable,
- provide fiscal relief to distressed areas,
- provide training and job experience sufficient to aid persons in "transitioning" into an unsubsidized job,
- provide "significant segments" of the population (minorities, veterans, women, etc.) with access to employment opportunities they otherwise would not have had,
- provide financial support for private non-profit community organizations providing public services,
- promote effective "citizen participation" in the local decision-making process regarding the utilization of PSE funds by establishment of Manpower Advisory Planning Councils.

Thus, the local, county, and state government and non-profit agencies given responsibility to implement the PSE program are faced with a wide variety of choices seeking to address all the major goals.

This implementation problem does not limit the feasibility of expanding any one specific program activity like housing, day care, or meals programs for the elderly. Rather, it presents a more fundamental problem complicating the administration and decisionmaking processes of the entire public job-creation effort at the local level. The result of these wide ranging goals is that local, county, and state governments pick and choose the goals they wish to pursue and those they wish to ignore. The program, then, becomes a different program in each locality thereby making it difficult to monitor or evaluate either in its present form or in an expanded form. In addition, the ambiguity and diversity of goals renders the program less effective in meeting any one of its goals than it could be with fewer and less often conflicting objectives.

Red Tape

A second implementation issue of general concern regarding PSE programs is red tape and the lack of effective technical assistance provided to local, county, and state governments, and community organizations participating in the program. This problem was the one that surfaced most frequently in our discussions with local officials and community representatives during our field visits.[1] It is especially acute in the PSE program since its rules and regulations have changed often over the past few years. This general issue does not limit the feasibility of expanding any one particular program through PSE, such as expanding energy conservation activities or increasing the number of teacher's aides. However, red-tape related problems could limit the feasibility of expanding public job-creation programs in several ways. First, the local, county, and state governments (prime sponsors) may not be able to provide the assistance necessary to instruct and aid public service agencies in filling out the necessary application forms, and understanding the proper regulations in reporting their use of job-creation funds. Thus, local agencies (public and private non-profit) may not be willing or able to participate fully in creating jobs for the unemployed due to red-tape related problems. A particular example from our field visits can make the issue more vivid. Administrators of PSE programs in two rural counties visited reported that their inability to provide technical assistance to social service and other agencies under their jurisdiction was the major reason they failed to meet their hiring objectives (Rubenstein, 1978b). To the extent red tape stifles participation in the program, the feasibility of a large-scale expansion of public job-creation efforts is limited. Second, red-tape related problems of the government bureaucracy in general, and the PSE program in particular, make it more difficult for a government agency or non-profit organization to achieve interagency coordination using PSE funds. The need for linking PSE funds with other local government and non-profit program activities in an efficient manner will grow as public job-creation efforts are expanded. Thus, to some extent, the feasiblity of expanding public job-creation efforts could be limited by the variety of implementation problems related to red tape, lack of adequate technical assistance, and the difficulty in achieving effective interagency coordination utilizing public job-creation funds.

Inadequate Environment of Effective Planning

A third general operational issue that may serve to limit the feasibility of a large-scale expansion of public jobs programs is one that has plagued past efforts to create jobs for the unemployed. This problem--the lack of adequate planning due to short leadtime and funding uncertainty--limits the feasibility of a wide variety of activities. Generally speaking, short leadtime limits the feasibility of activities that require sophisticated or long-range planning while the year to year funding of current and previous job-creation programs effectively prohibits the use of PSE funds for activities that are going to require more than one year to implement. For example, short leadtime will limit the usefulness of PSE funds in expanding such activities as the building of physical structures or the carrying out of social service programs for which plans are not already developed. Short leadtime and funding uncertainties also limit a government or non-profit agency from being able to design and implement activities which are large-scale (employ over 50 persons) due to the leadtime required to coordinate such an effort and the problems caused by having to phase out the effort within one year. Thus, we see potential bottlenecks, coordination problems, and poor planning as the almost inevitable results of expanding public job-creation efforts to a large scale while allowing short leadtimes and year to year funding.

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[1] A detailed summary of the findings from these site visits on administrative and implementation issues can be found in Rubenstein (1978b).

Targeting Restrictions

A fourth general issue regarding PSE programs that is significant in assessing the feasibility of a large-scale expansion of public job-creation programs is "targeting." Targeting refers to the setting of eligibility requirements for those who can (legally) obtain jobs through a public employment program. Targeting has shifted dramatically over the life of PSE programs since 1971, focusing more recently on persons who are unemployed 15 weeks or longer or economically disadvantaged. One of the main concerns regarding targeting is:

> In an expanded public jobs program that is targeted to certain persons among the unemployed, can persons who are ineligible for the program be effectively prevented from getting these jobs?

The current evidence is not favorable. A recent General Accounting Office study citing a Department of Labor audit states that "the rate of ineligibles for the Title VI program may be as high as 10.8 percent" (GAO, p.4). This lack of an effective system to verify eligibility of potential participants, unless remedied, could prove to be a serious constraint on the ability of a large-scale PSE proram to target the jobs created for persons most in need.

A second main concern regarding targeting is, to the extent that the PSE program is restricted to the long-term unemployed who are economically disadvantaged, the persons eligible to participate in the program will be predominantly low skill. Many badly needed public service and public works activities will require some high-skill workers and supervisors (in addition to large numbers of low-skill persons) if they are to be expanded. Thus, restricting a public jobs program to low-skill workers may render some activities listed in this report infeasible. In addition, it could limit the usefulness of the program to those who gain jobs by severely limiting the opportunities to receive proper supervision, adequate training, or the experience of working with a relatively skilled person.

Restrictions on Spending

The fifth major issue also results from the restrictive nature of some of the regulations of the current PSE program. These regulations state that 85 percent of the total funds for the program must go to wages. The implementation problem that this raises is that a wide variety of activities cannot be undertaken utilizing public job-creation funds because they either require too much money for necessary materials, supplies, and equipment costs, or demand too much administration, supervision, and training related expense to be paid fully from public jobs funds. The restrictive nature of the funding, as it now stands, could serve to limit the feasibility of the number of public service and public works activities that could be implemented under a public jobs program.

Political Opposition from Pressure Groups

A sixth major operational issue that could render the expansion of some public service or public works activities infeasible is what we call "pressure group" problems. For example, in cases where expansion of public service or public works activities can be expected to reduce the revenues of profit making enterprises, these companies, their lobbyists, and representatives will fight hard to prevent expansion of the activity. If a union perceives that its membership could be adversely affected by expanding a public service or public works activity through a public jobs program then it will fight to curtail the program. Unions often fear that people supported by a public jobs program who are being paid less than the union wage will take over some of the functions currently performed by union members and either drive them out of work or cause a lowering of union wages through the competititon. Thus, where unions are strong, they may seek to prevent local units of government from undertaking activities with a public jobs program that are in any way similar to the functions performed by union members of the area.

Transition to Unsubsidized Employment

A final operational issue of concern to those considering a large-scale expansion of public jobs programs is the ability of workers to gain unsubsidized jobs (in either the public or private sector) after they have been a participant in a public jobs program for a given period of time. Little sustainable evidence exists as to the succes (or lack of success) that current PSE participants are having in securing unsubsidized jobs upon completion of a subsidized period of employment. One would expect that persons holding subsidized jobs which do not provide transferable skills, positive work attitudes, or knowledge of other employment oppotunities are going to have little success in finding unsubsidized employment even after holding a publicly subsidized job. However, because of the paucity of research on this issue and the lack of knowledge regarding individual local labor market future needs, little can be said regarding the public job-creation activities that will lead to high transition rates and the ones that will not. In a general sense though, a large-scale public job-creation effort must devote significant resources to transition since the inability of a public jobs program to result in the gaining of unsubsidized employment by its participants would signify the failure of the program to meet one of its most often quoted objectives.

As noted earlier, there is no basis for us to pass judgment on the current level of transition, which activities promote it, or which activties do not contribute to it. Whether this issue would become a major source of problems in administering a large-scale public jobs program is not certain, but the potential exists for it to limit severely the "success" of future jobs programs if we are to measure them by this criterion.

Linking Issues to Projects

We have presented the major implementation problems that were raised by previous research and that surfaced during our site visits and have discussed them in a general manner. Now, we attempt to link, where possible, some of these issues with some of the activities that we have suggested as viable candidates for expansion. This section attempts to show how expanding certain activities could be rendered less feasible due to expected implementation problems.

The implementation problems focused on in this section include: (1) targeting employment opportunities, (2) lack of resources for training, supervision, materials, supplies, and equipment, and (3) pressure group problems. The major activities whose expansion may be rendered less feasible due to one or more of these implementation problems include:

- Education and School Related Activities
- Energy Conservation
- Environmental Programs
- Housing and Public Housing Related Activities
- Local Government Supported Buildings and Public Works
- Social Services.

The expected problems and their linkages with specific program areas are summarized in Table 7.1 and discussed below.

TABLE 7.1

ADMINISTRATIVE AND ORGANIZATIONAL PROBLEMS BY SELECTED PROGRAM AREAS

	Targeting Employment Opportunities	Lack of Resources for Materials, Supplies, and Equipment	Lack of Resources for Training and Supervision	Pressure Group Problems
Education	X		X	
Energy Conservation		X	X	
Environmental Programs		X		
Housing Activities	X	X	X	X
Public Works	X	X	X	X
Social Services	X		X	

Education

Earlier in this report we estimated that over 1.2 million employment opportunities could be created in education related services to meet public needs. Two implementation issues discussed above may reduce the actual number of jobs that can be created in the field of education through a public jobs program. The first issue is targeting. A large percentage of the jobs will require professional skills and if future public jobs programs are restricted to those with low-skill levels then there will be a skill imbalance between the available workers and the skills demanded by the jobs created.

The lack of resources allowed for training and supervision of persons hired under public jobs programs also may serve to limit the number of additional low-skill workers that schools can abosrb. At present, schools must stretch their existing resources to meet the supervision and training needs of new and primarily low-skill employees made available to them by PSE. The ability of school districts to use even more of their own scarce resources to help create large numbers of jobs under a public jobs program is limited due to the less than rosy financial picture of school districts. Thus, two features of current employment programs--targeting and lack of resources for training and supervision--could limit the feasibility of creating large numbers of jobs in the field of education through a public jobs program.

Energy Conservation

Two issues could limit the feasibility of expanding energy conservation activities under a public jobs program. The first issue is one that also may limit the potential for job-creation in education. It is the lack of resources for training and supervision. Many of the energy conservation activities that we have suggested as viable candidates for expansion will require that persons carrying out these jobs be given both training and supervision by those knowledgeable in the field. Second, some of the energy conservation activities that we have suggested, such as weatherization of houses and buildings, will require substantial funds for materials, supplies, and equipment. These funds are not provided in current job-creation programs and, if funds are not made available for non-wage costs under an expanded public jobs program, activities such as this one and others to be discussed below will not be able to be expanded to a large scale.

Environmental Programs

This same issue--lack of funds for materials, supplies, and equipment--could limit severely the potential for creating large numbers of employment opportunities in expanding environmental and soil conservation programs. Many of these activities, including recycling of glass, paper, aluminum and other materials, soil conservation programs, and timber stand improvements, require substantial resources for equipment and cannot be financed by a program that restricts the use of its funds for non-wage costs to 15 percent of the total budget.

Housing Activities

As shown in Table 7.1, each of the four major implementation issues discussed in this section could reduce the actual number of employment opportunities that could be created in housing related activities from the large number that we estimate could be created in order to meet public needs.

Targeting a public jobs program too restrictively could keep out the skilled workers necessary to supervise and perform some of the essential work in housing rehabilitation. Second, we estimate that non-wage costs (for materials, supplies, and equipment) will be 50 percent of the total cost of expanding this program. Thus, restricting non-wage costs to 15 percent of total costs limits its feasibility. Third, if attempts are made to utilize low-skill workers to the maximum extent possible, then resources will be needed to provide training and supervision of these workers by more skilled workers or the final product could be poorly constructed. Finally, a new issue--pressure group problems--could limit the expansion of housing related efforts. On the one hand, unions could fear that non-union, lower wage publicly subsidized workers could adversely affect their wages and job security. On the other hand, private developers, home builders, and other profit making companies could fear a reduction in their businesses and profits if the government sought to expand housing rehabilitation efforts significantly. These pressure group problems are likely to be reduced through providing housing rehabilitation assistance to the poorest families who could not obtain it on the private market through profit making companies utilizing high wage union labor.

Public Works

The same four issues are relevant regarding expansion of public works projects, although the pressure group problems will not be as significant. We estimate that nearly two-thirds of the jobs created through public works activities will require skilled persons and that materials costs can be as high as 90 percent of the total cost of the project. Thus, expansion of public works activities, like expanding several housing related activities, will require a public jobs program that is flexible enough to be able to address all four major implementation issues raised here plus the issues raised earlier in this Chapter, especially short leadtime and year to year funding uncertainty.

Social Services

Generally speaking, social service activities can be expanded without large materials, supplies or equipment costs, or creating serious pressure groups problems.[1] However, expanding social services for groups such as the blind, deaf, mentally retarded, and elderly on a large scale will require using the services of a substantial number of skilled individuals currently not eligible for public job-creation programs (since they have not been unemployed or economically disadvantaged). In addition, while the use of large numbers of low-skill workers in expanding social services is desirable and feasible (from a public jobs program point of view), these workers will require training and supervision in order to carry out many of their jobs effectively. The feasibility of expanding the large number of social services that we have suggested as viable candidates for public job-creation activities will therefore depend in large part on the ability of the jobs program to provide the social service agencies with adequate numbers of skilled and supervisory personnel and the financial resources necessary to train and supervise the low-skill workers.

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[1] There are exceptions. Meals on wheels programs require 50 percent of their total costs to go to non-wage items such as food, transportation, etc. and a large-scale expansion of this activity could raise pressure group problems by profit making food and restaurant companies.

Conclusion

We have discussed some of the major administrative and operational issues that may limit the feasibility of a large-scale expansion of the job-creation activities suggested in this report. The severity of the impact of these issues will vary from local area to local area and among program activities. Four issues could limit the potential scope and effectiveness of any activity expanded under public jobs programs. They are:

1. Ambiguous goals of public job-creation programs.
2. Red tape, lack of technical assistance, and poor interagency coordination using public job-creation funds.
3. Lack of adequate planning due to short leadtime and funding uncertainty.
4. Low transition to unsubsidized jobs.

Four other issues were discussed and examples of how each of these issues could limit the job-creation potential of specific activities were presented. These issues include:

1. Targeting.
2. Lack of funds for materials, supplies, and equipment.
3. Lack of funds for supervision and training.
4. Pressure group problems.

These final four issues and the examples that we have provided show clearly how a public jobs program must be flexible if it is expected to provide financial assistance to the 233 different activities that we have identified in this study. The first four issues attest to the fact that a large-scale expansion of public jobs programs must meet a basic set of preconditions in order to be well managed and effective.

These issues do not render a large-scale expansion of public job-creation programs infeasible. Rather, we have raised them in a manner that sheds light on how to rectify shortcomings of current PSE programs in order to improve them whether they are carried on at the current level or expanded greatly.

VIII. FINDINGS, CONCLUSIONS, AND POLICY RECOMMENDATIONS

The purpose of this study was to assess the feasibility of large-scale, countercyclical public job-creation. Our major concern was with the assertion that such a program was limited in its potential capacity to expand by the amount of meaningful activity it could support. In other words, we wanted to determine how much such programs could be enlarged before "make-work" activities would appear. An additional concern was with the characteristics of the activities that would be supported by such a program--their labor-intensity, the number of jobs they would provide, the skill composition of these jobs, their costs, etc. A final concern was the ranking of these activities with respect to some notion of social priority and with possible administrative and organizational issues that might pose significant barriers to the implementation of these activities.

Earlier studies produced estimates of onsite job-creation potential that ranged between 300 thousand and 5.3 million, depending on the scope of activities and jurisdictions examined and the methods used to generate estimates. Our efforts were more comprehensive than these past studies because: (1) they examined all activities at all levels of government; (2) considered both onsite and offsite job-creation; (3) compared skills required by the jobs with skills available to identify potential skill-bottlenecks; and (4) we built into our estimates possible barriers to implementation expected to arise from administrative or organizational factors.

The study identified 233 potential job-creation activities in 21 different program areas. This list of activities, together with a description of their characteristics, should provide valuable guidance to prime sponsors and other program administrators charged with the responsibility of developing job-creation activities. The largest numbers were in the following program areas: public works (37), environmental quality (31), education (27), social services (27), and criminal justice (24). From these, estimates of onsite jobs and costs could be generated for 115 activities. These 115 activities were estimated to be capable of generating around 3 million onsite jobs at a cost of $46 billion, or a cost per onsite job of slightly more than $15,000. These per-job costs ranged from as low as $8,000 for cultural activities (including museums and public libraries) to as high as $41,000 for public works. Eleven of the 21 program areas generated activities which, on average, could be considered "labor-intensive" (i.e., at least 70 percent of their total costs are labor costs), and eleven could be considered "low-skill" (i.e., at least 70 percent of the onsite job slots can be filled by unskilled laborers or service workers--the lowest-paying occupation classes). About 40 percent of all onsite jobs--or 1.2 million jobs--can be considered low-skill. Of course, a large number of additional onsite jobs could also be created by the 118 projects for which estimates could not be generated. These estimates of potential job-creation should, therefore, be considered quite conservative. It is reasonable to conclude, therefore, that at least 3 million onsite jobs are capable of being generated under a large-scale public job-creation program and that more than 1.2 million of these jobs can be filled by "low-skill" workers.

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The estimated number of onsite and offsite jobs that can be generated varied according to the assumption adopted about fiscal substitution and whether the resources freed by such substitution are ultimately spent. The "optimistic" scenario assumed that all job-creation funds are ultimately spent, regardless of whether or not fiscal susbstitution occurs, and the "pessimistic" scenario assumed that none of the funds freed by fiscal substitution are spent. An estimated 3.5 million jobs are created under the pessimistic scenario and 7.4 million jobs are created under the optimistic scenario. The effect of these additional jobs is to lower the cost per job created from $15,000 (for onsite jobs) to approximately $5,800 (under the optimistic scenario) or $12,100 (under the pessimistic scenario) for both onsite and offsite jobs.

Moreover, the characteristics of jobs created offsite differed noticeably from jobs created onsite. For example, while low-skill jobs constitute over 40 percent of the onsite jobs, they represent only 15 percent of the offsite jobs. Thus, one effect of offsite job-creation is to lower the percent of jobs that can be filled by low-skill workers from over 40 percent to only 25 percent.

The actual number of low-skill jobs that are capable of being generated increases from 1.2 million to over 1.8 million (under the optimistic scenario); it falls to slightly less than 900 thousand under the pessimistic scenario.

A major conclusion to be drawn from these findings is that, because offsite employment effects of these activities is substantial and because these jobs differ in characteristics from onsite jobs, inferences about the average costs and targeting effectiveness of job-creation programs should not be drawn from onsite job-creation and cost data only.

It is reasonable to assume that, ultimately, all job-creation funds will be spent (although, in the short run, some funds freed by fiscal susbstitution might not). Thus, it can be concluded that at least 7.4 million jobs can be created at an average cost of roughly $5,800 per job and that at least 1.8 million of these jobs (approximately one-fourth of the total) can be filled by low-skill workers.

The characteristics of the supply of workers available to fill these jobs will depend on the targeting objectives of the program. Recent experience reveals a schizophrenic or inconsistent attitude toward these objectives in which emphasis has shifted back and forth between targeting on the structurally unemployed and targeting on the cyclically unemployed. Policymakers have not been able to make up their minds about whether these job-creation programs ought to be serving structural or countercyclical objectives, although the most recent changes in the program have tended to push it in the structural direction. Given this ambivalence about goals, estimates of the supply of workers available for these programs were produced using alternative aggregate demand conditions. Estimates for a structural program were generated for a "structural" program at an unemployment rate of 4.9 percent and for a "countercyclical" program at an unemployment rate of 8.5 percent. The estimates were further disaggregated into five target groups: (1) a global estimate, which included all observed (or measured) unemployed, all hidden unemployed, and all underemployed workers; (2) all measured unemployed; (3) all long-term measured unemployed; (4) all low-skill measured unemployed; and (5) low-skill, long-term measured unemployed. The estimates were converted into full-year-equivalent numbers to account for within-year turnover and to make them comparable to the estimates of the number of jobs created. Full-year equivalent supply ranged from 0.5 million to 5.7 million in the structural program, and from 1.2 million to 7.1 million in the countercyclical program, depending on the target group. Of these, low-skill full-year-equivalents numbered roughly from 0.5 million to 2.4 million in the structural program and from 1.2 million to 2.8 million in the countercyclical program.

Potential labor market bottlenecks were assessed by comparing the number of full-year-equivalent workers available for jobs to the number of jobs created by the 115 activities for which estimates were made in this study. The comparisons were made using job-creation estimates under the "optimistic" scenario for four alternative combinations of activities and five alternative target groups. Separate comparisons were made for the structural program and for the countercyclical program. The activities used to estimate job-creation were capable of generating more than enough jobs to satisfy the employment requirements of the most global target group in the countercyclical program. *A fortiori*, these activities can be expected to generate more than enough jobs for any less global target group for this program or for any target group in the structural program. The resultant bottlenecks are distributed across all occupations. *The obvious conclusion to be drawn from this finding is that any attempt to implement all of the activities that generated the job-creation estimates used in this study is likely to produce labor market imbalances that could be inflationary and that a judicious selection from among these activities would be desirable*.

When subsets of activities are examined, they are found to be suitable to particular target groups. Labor-intensive activities create an aggregate number of jobs that roughly balances the full-year-equivalent supply available in the target group of long-term unemployed workers in the countercyclical program. Labor shortages of 800,000 and 300,000 full-year equivalents appear for professional-managerial and service workers, respectively--however, these shortages can be eliminated by drawing from the supply of unemployed or underemployed workers who are not part of this target group.

Low-skill activities generate an aggregate number of jobs that roughly balances with the target group of low-skill workers in the countercyclical program. Shortages appear for professional-managerial workers (200,000), clerical and sales workers (100,000), and service workers (200,000). However, these shortages can also be eliminated by drawing from the supply of unemployed or underemployed workers who are not part of this target group.

Finally, the low-skill, labor-intensive activities generate an aggregate number of jobs that roughly balances with the job-requirements of the target group of low-skill unemployed in the structural program. Shortages appear for professional-managerial workers (100,000), laborers (100,000), and service workers (300,000). Again, these shortages can be eliminated by drawing from the supply of unemployed and underemployed workers who are not part of this target group.

From these findings one can conclude that the low-skill, labor-intensive activities used to produce estimates of job-creation in this study can serve as the foundation of a structural program targeted on the long-term or the low-skill unemployed. Additional labor-intensive activities would be required for a countercyclical program targeted on the long-term unemployed. Other activities would be required for a countercyclical program targeted on the most global group--the measured and hidden unemployed and the underemployed. These combinations of activities appear to be feasible on the basis of (1) providing meaningful work and (2) not producing labor market bottlenecks.

Priorities among program areas were established on the basis of judgments by public officials and community representatives about: (1) excess demand for public services, and (2) changes in activities that might result from an increase or a decrease in federal funding. First, areas identified as areas of excess demand by at least 20 percent of officials and representatives were isolated. Then, from among those areas, the ones selected by at least 10 percent for increases with additional federal funding, and the ones selected by a large number of officials and representatives for increases rather than for decreases were isolated. The areas that met all of these tests were defined as priority areas.

The area of environmental quality met the test for all public officials and representatives examined. The following areas met the test for all officials and representatives except elected public officials:

- housing,
- health,
- criminal justice.

These areas provide roughly one-sixth to one-fifth of the 3 million jobs created by the activities identified in this study.

It is difficult to draw policy conclusions from these findings. The officials and representatives whose judgments are reflected in these priorities were not necessarily a representative sample. Moreover, even if they were, they do not necessarily reflect a consensus about social priorities from all members of their communities. Thus, these findings must be viewed cautiously. Nevertheless, these data suggest that activities in these areas might be given priority in the selection process if all projects are not feasible.

Administrative and operational issues were examined on the basis of an extensive literature review and from information acquired during the course of our fieldwork. The following issues were identified as potential barriers to effective implementation of activities funded under a large-scale public job-creation program:

- ambiguous program goals,
- red tape,

- inadequate time for planning,
- targeting,
- inadequate resources for training, supervision, and materials,
- pressure group problems (e.g., unions, competition in private sector),
- transition requirements.

Each of these issues can render a project (or groups of projects) infeasible. Two issues--inadequate time for planning and inadequate resources for training, etc.--were singled out as amenable to policy action that would minimize the difficulties they now produce.

The former can be alleviated by more stable funding patterns. However, this improvement may be purchased at the cost of more fiscal substitution unless more effective constraints are imposed on how funds will be utilized and greater effort is made to assure that maintenance-of-efforts provisions are honored.

The latter can be alleviated by loosening the current requirement that no less than 85 percent of the funds be spent on the wage bill. While this may reduce the onsite job-creation performance of the program, it will increase the range of feasible activities and it may improve the long-range benefits accruing to program participants by providing them with better on-the-job training experience.

The major purpose of this study was to assess the feasibility of a large-scale counter-cyclical public job-creation program. The study identified 233 activities that could serve as the basis of such a program. The activities described in this study should provide valuable guidance to prime sponsors and other program administrators responsible for job-creation activities.

It also found that 115 of these activities--those for which job-creation estimated could be generated--were capable of producing more than enough jobs to satisfy the most ambitious goals (expressed in terms of job-requirements for target groups or eligible populations). Moreover, it found that these activities (or subsets of these activities) could be implemented on a national scale without creating serious skill bottlenecks.

Thus, it can be concluded that, from a policy perspective, such a program is feasible. Therefore, whether or not such a program should be implemented should be decided on factors other than those of make-work or skill bottlenecks.

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APPENDIX IA

SITE SELECTION STRATEGY FOR FIELD VISITS TO FEDERAL REGIONS

The basic purpose of this appendix is to describe the method used to select localities for regional field visits. In order to obtain some balance in our sample of localities, priority was given to geographic representation in our site-selection strategy. The following regional dimensions were considered:

Kind of Region	Number of Areas	Reason for Construction
Census Region	4	Geographic
Census Geographic Areas	9	Geographic
Economic Development Administration Districts	157	Labor Market Condition Administrative
CETA Regions	10	Geographic Economic
BEA Areas	173	Structure of Labor Market and Community Pattern

CETA regions were selected as the appropriate classification or stratification. These regions, with their member states, are described in Table 1A.1. Within each region (or strata), a "locality" was selected on the basis of its regional representation of county population size (or class grouping).[1]

Three classes of counties were developed on the basis of their population size. Counties were first ranked by population size and then the population of the largest counties were summed until approximately one-third of the national population was reached; this set, 51 counties, was classified as Class I counties. Counties that constitute Class II were obtained by the continued summing of county population size until two-thirds of the national total population was reached; this set, 265 counties, was defined as Class II counties. The remaining third of the total U.S. population, a set of 2,876 counties, constituted Class III counties. Class I and Class II counties are described in Tables 1A.2.

The number selected from each county class within a region was determined on the basis of the proportion of the population in the respective county classes that reside within the region.

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[1] A locality was defined as at least 3 to 4 economically independent jurisdictions or counties located within 100 miles of at least one of the two other counties.

TABLE 1A.1

STATES BY CETA REGION

Region I

- Connecticut
- Maine
- Massachusetts
- New Hampshire

Region II

- New Jersey
- New York

Region III

- Delaware
- District of Columbia
- Maryland
- Pennsylvania
- Virginia
- West Virginia

Region IV

- Alabama
- Florida
- Georgia
- Kentucky
- Mississippi
- North Carolina
- South Carolina
- Tennessee

Region V

- Illinois
- Indiana
- Michigan
- Minnesota
- Ohio
- Wisconsin

Region VI

- Arkansas
- Louisiana
- New Mexico
- Oklahoma
- Texas

Region VII

- Iowa
- Kansas
- Missouri
- Nebraska

Region VIII

- Colorado
- Montana
- North Dakota
- South Dakota
- Utah
- Wyoming

Region IX

- Arizona
- California
- Nevada
- Guam
- Trust Territory

Region X

- Idaho
- Oregon
- Washington

TABLE 1A.2

CLASS I AND CLASS II COUNTIES USED IN SAMPLING PROCEDURE

Class I Counties

Region I

Middlesex, Mass.
Hartford, Conn.
Fairfield, Conn.
New Haven Conn.
Suffolk, Mass.
Essex, Mass.
Worcester, Mass.

Region II

Kings, N.Y.
Queens, N.Y.
New York, N.Y.
Bronx, N.Y.
Nassau, N.Y.
Suffolk, N.Y.
Erie, N.Y.
Essex, N.J.
Bergen, N.J.
Westchester, N.Y.
Monroe, N.Y.

Region III

Philadelphia, Pa.
Allegheny, Pa.
Baltimore City, Md.
District of Columbia
Prince Georges, Md.

Region IV

Dade, Fla.
Shelby, Tenn.
Jefferson, Ky.
Jefferson, Ala.

Region V

Cook, Ill.
Wayne, Mich.
Cuyahoga, Ohio
Milwaukee, Wis.
Hennepin, Minn.
Hamilton, Ohio
Oakland, Mich.
Franklin, Ohio
Marion, Ind.

Region VI

Dallas, Tx.
Bexar, Tx.
Tarrant, Tx.
Harris, TX.

Region VII

St. Louis, Mo.
Jackson, Mo.

Region VIII

Region IX

Los Angeles, Calif.
Orange, Calif.
San Diego, Calif.
Alameda, Calif.
Maricopa, Az.
San Francisco, Calif.
San Bernardino, Calif.
Sacramento, Calif.

Region X

King, Wash.

TABLE 1A.2
(continued)

Class II Counties

Region I

Norfolk, Mass.
Providence, R.I.
Hampden, Mass.
Bristol, Mass.
Plymouth, Mass.
New London, Conn.
Hillsborough, N.H.
Cumberland, Ma.
Litchfield, Conn.
Kent, R.I.
Rockingham, N.H.
Penobscot, Ma.
Hampshire, Mass.
Middlesex, Conn.
York, Ma.

Region II

Hudson, N.J.
Middlesex, N.J.
Union, N.J.
Camden, N.J.
Morris, N.J.
Burlington, N.J.
Mercer, N.J.
Richmond, N.Y.
Albany, N.Y.
Oneida, N.Y.
Niagara, N.Y.
Rockland, N.Y.
Dutchess, N.Y.
Broome, N.Y.
Orange, N.Y.
Ocean, N.J.
Somerset, N.J.
Atlantic, N.J.
Gloucester, N.J.
Schenectady, N.Y.
Rensselaer, N.Y.
Chautauqua, N.Y.
Ulster, N.Y.
Saratoga, N.Y.
Cumberland, N.J.
St. Lawrence, N.Y.

Region III

Montgomery, Pa.
Baltimore, Md.
Delaware, Pa.
Montgomery, Md.
Fairfax, Va.
Bucks, Pa.
New Castle, Del.
Luzerne, Pa.
Norfolk City, Va.
Anne Arundel, Md.
Berks, Pa.
Chester, Pa.
Erie, Pa.
York, Pa.
Lehigh, Pa.
Richmond City, Va.
Lackawanna, Pa.
Kanawha, W. Va.
Wake, N.C.
Dauphin, Pa.
Northampton, Pa.
Washington, Pa.
Beaver, Pa.
Cambria, Pa.
Arlington, Va.
Virginia Beach City, Va.
Schuylkill, Pa.
Cumberland, Pa.
Henrico, Va.
Blair, Pa.
Butler, Pa.
Mercer, Pa.
Hampton City, Va.
Harford, Md.
Lycoming, Pa.

TABLE 1A.2

Class II Counties
(continued)

Region IV

Broward, Fla.
Fulton, Ga.
Duval, Fla.
Pinellas, Fla.
Hillsborough, Fla.
Davidson, Tenn.
DeKalb, Ga.
Mecklenburg, N.C.
Orange, Fla.
Palm Beach, Fla.
Mobile, Ala.
Guilford, N.C.
Knox, Tenn.
Hamilton, Tenn.
Charleston, S.C.
Greenville, S.C.
Brevard, Fla.
Polk, Fla.
Forsyth, N.C.
Hinds, Miss..
Cumberland, N.C.
Escambia, Fla.
Cobb, Ga.
Chatham, Ga.
Fayette, Ky.
Spartanburg, S.C.
Volusiz, Fla.
Montgomery, Ala.
Muscogee, Ga.
Richmond, Ga.
Gaston, N.C.
Bibb, Ga.
Harrison, Miss.
Durham, N.C.
Kenton, Ky.
Sullivan, Tenn.
Sarasota, Fla.
Tuscaloosa, Ala.

Region V

Macomb, Mich.
Montgomery, Ohio
Summit, Ohio
Lake, Ind.
Du Page, Ill.

Region V (cont.)

Lucas, Ohio
Ramsey, Minn.
Genesee, Mich.
Kent, Mich.
Lake, Ill.
Stark, Ohio
Mahoning, Ohio
Dane, Wis.
St. Calir, Ill.
Allen, Ind.
Ingham, Mich.
Lorain, Ohio
Madison, Ill.
Will, Ill.
Winnebago, Ill.
St. Joseph, Ind.
Washtenaw, Mich.
Trumbull, Ohio
Waukesha, Wis.
Butler, Ohio
St. Louis, Minn.
Saginaw, Mich.
Kalamazoo, Mich.
Lake, Ohio
Peoria, Ill.
Racine, Wis.
Vanderburgh, Ind.
Rock Island, Ill.
Berrien, Mich.
Champaign, Ill.
Sangamon, Ill.
Brown, Wis.
Clark, Ohio
Muskegon, Mich.
Anoka, Minn.
Jackson, Mich.
Calhoun, Mich.
Dakota, Minn.
Madison, Ind.
Rock, Wis.
Richland, Ohio
Winnebago, Wis.
Delaware, Ind.
Ottawa, Mich.
Elkhart, Ind.
Portage, Ohio
Greene, Ohio

TABLE 1A.2

Class II Counties

(continued)

Region VI

- Orleans, La.
- Oklahoma, Okla.
- Tulsa, Okla.
- El Paso, Tex.
- Jefferson, La.
- Bernalillo, N. Mex.
- Travis, Tex.
- Pulaski, Ark.
- East Baton Rouge, La.
- Jefferson, Tex.
- Nueces, Tex.
- Caddo, La.
- Hidalgo, Tex.
- Lubbock, Tex.
- Galveston, Tex.
- McLennan, Tex.
- Calcasieu, La.
- Cameron, Tex.
- Bell, Tex.
- Wichita, Tex.
- Rapides, La.
- Lafayette, La.

Region VII

- St. Louis City, Mo.
- Douglas, Nebr.
- Sedgwick, Kan.
- Polk, Iowa
- Johnson, Kan.
- Wyandotte, Kan.
- Lancaster, Nebr.
- Linn, Iowa
- Shawnee, Kan.
- Scott, Iowa
- Black Hawk, Iowa

Once an efficent allocation of county classes by region had been obtained, a simple random sample was drawn within each region for each of the respective county classes. The Rand Table of One Million Random Numbers was used to randomly sample the counties from the appropriate county classes. Then, the constraint that the three counties be located within a distance of 100 miles of one of the other two counties was imposed. This constraint was imposed in an effort to minimize travel cost and time within each CETA region.

The primary reason for selecting these counties randomly was that there was currently no reliable measures of the demand for public services (or community unmet needs) that may be used as a basis for further stratification. If we had been able to obtain a reliable measure of the implicit demand for public services (or unmet needs) in the counties throughout the U.S., we would have been in a position to select counties systematically.

The selection of a set of three counties depended on the following rules:

- if all three counties are located within a distance of 100 miles of at least one of the other two counties, accept the sample;
- if two of the three counties are within a distance of 100 miles of the other then those two counties will be retained and the third county selected will be excluded from the sample and a subsequent county will be randomly (or non-randomly) selected sequentially until the a priori distance criteria is satisfied;
- if not one of the counties lie within a distance of 100 miles of at least one of the other two counties, reject the three counties, return them to their universe and proceed to select counties randomly until the distance constraint is satisfied.

Once the distance contraint had been satisfied, an additional criteria was also checked; the requirement that the three counties or jurisdictions be economically independent. The deciding factor that was used for determining whether one county was economically independent of another was that the two counties had to be separate BEA areas or at least in different subareas of the major BEA areas.

The results of this selection strategy produced the following percentage distribution on the population within the CETA region by County Classes:

CETA REGION

County Class	(%) 1	(%) 2	(%) 3	(%) 4	(%) 5	(%) 6	(%) 7	(%) 8	(%) 9	(%) 10
I	49	58	25	10	35	23	14	0	67	19
II	35	32	43	33	6	28	27	39	24	42
III	16	10	32	57	59	49	59	61	9	39

The allocation of sample sites by region that resulted was:

CETA REGION

County Class	1 #	2 #	3 #	4 #	5 #	6 #	7 #	8 #	9 #	10 #	Total #
I	2	2	1	0	1	1	0	0	2	1	10
II	1	1	2	1	0	1	1	1	1	1	10
III	0	0	0	2	2	1	2	2	0	1	10
Total	3	3	3	3	3	3	3	3	3	3	30

A list of the randomly selected counties by CETA regions are shown in Table 1A.3 along with their corresponding county class, BEA area, SMSA, if any, and the name of any city within the county with a population of at least 25,000 inhabitants.

TABLE 1A.3

LIST OF RANDOMLY SELECTED COUNTIES TO BE VISITED TO SOLICIT INFORMATION OF THE DEMAND FOR PUBLIC SERVICES

Region	County	Class	BEA Area	Constitues or is part of an SMSA?	A City Within County
Region I	New Haven, Conn.	I	5	YES	New Haven
	Fairfield, Conn.	I	13	YES	Bridgeport
	Providence, R.I.	II	4 sub 9	YES	Providence
Region 2	Erie, New York	I	8 sub 1	YES	Buffalo
	Monroe, New York	I	7 sub 1	YES	Rochester
	Oneida, New York	II	7 sub 3	YES	Rome
Region 3	Dauphin, Pa.	II	15 sub 1	YES	Harrisburg
	Luzerne, Pa.	II	14 sub 1	YES	Wiles-Barre
	Baltimore, Md	I	16 sub 1	YES	Baltimore
Region 4	Liberty, Ga.	III	30	NO	Hinesville
	Bamberg, S.C.	III	29	NO	Bamberg
	Richmond, Ga.	II	29 sub 1	YES	Augusta
Region 5	Ross, Ohio	III	60 sub 3	NO	Chillicothe
	Wayne, Ind.	III	57	NO	Richmond
	Hamilton, Ohio	I	58	YES	Cincinnati
Region 6	Harris, Tex.	I	125 sub 2	YES	Houston
	Lafayette, La.	II	124 sub 2	YES	Lafayette
	Grimes, Tex.	III	115 sub 2	NO	Bryan City
Region 7	Dallas, Iowa	III	93	NO	
	Gage, Nebra.	III	95	NO	
	Douglas, Nebra.	II	94 sub 1	YES	Omaha
Region 8	Eagle, Colo.	III	132	NO	Vail
	Washington, Colo.	III	131 sub 4	NO	Akron
	El Paso, Colo.	II	130	YES	Colorado Springs
Region 9	Sacramento, Calif.	I	145 sub 1	YES	Sacramento
	Alameda, Calif.	I	147 sub 7	YES	Berkeley
	Fresno, Calif.	II	143 sub 4	YES	Fresno
Region 10	King, Washington	I	135 sub 1	YES	Seattle
	Yakima, Wash.	II	136	NO	Yakima
	Kliakitat, Wash.	III	137 sub 4	NO	White Salmon

APPENDIX IB

WASHINGTON-BASED AGENCIES AND ORGANIZATIONS CONTACTED

FEDERAL GOVERNMENT AGENCIES

- Action
  - Office of Evaluation
- U.S. Department of Agriculture
  - U.S. Cooperative Extension Service
  - Farmers Home Administration
  - National Forest Service
- Community Services Administration
  - Office of Policy, Planning, and Evaluation
  - Office of Energy
- Department of Commerce
  - Economic Development Administration
  - White House Conference on Balanced National Growth
- Department of Health, Education, and Welfare
  - Office of the Assistant Secretary for Planning and Evaluation
  - Office of the Assistant Secretary for Health
  - Office of Child Development
  - Center for Disease Control
  - Delivery of Services Team--National Health Insurance
  - Medicaid Bureau--Division of Analysis and Evaluation
  - Administration on Aging
  - President's Commission on Employment of the Handicapped
  - Architectural Barriers Compliance Board
  - Office of the Assistant Secretary for Education
  - National Institute for Mental Health Project Share
- Department of Housing and Urban Development
  - Office of Policy Development and Research
  - Office of Evaluation, Community Planning and Development
  - Office of Lead Based Paint Studies
- Department of the Interior
  - Office of Program Development and Budget
  - Bureau of the Mines
  - U.S. Geological Survey
  - National Park Service

FEDERAL GOVERNMENT AGENCIES (continued)

- Department of Justice
  - Office of Policy and Planning
  - Law Enforcement Assistance Administration
  - Bureau of Immigration and Naturalization
  - Bureau of the Prisons
- Department of Labor
  - Office of the Assistant Secretary for Policy, Evaluation, Research
  - Employment and Training Administration
  - Employment Standards Administration
  - Office of Youth Programs
- Department of Transportation
  - Federal Railroad Administration
  - Amtrak
  - ConRail
- Environmental Protection Agency
  - Office of Federal Activities
  - Solid Waste Division
- National Academy of Sciences
  - Assembly for Behavioral and Social Sciences
- Office of Management and Budget
  - Division of Housing, Veterans, and Labor

NATIONAL ORGANIZATIONS

- Alexander Graham Bell Association for the Deaf
- American Correctional Association
- American Association of Museums
- American Federation of State, County, and Municipal Employees
- American Foundation for the Blind

APPENDIX IB
(continued)

NATIONAL ORGANIZATIONS (continued)

American Library Association

American Public Health Association

American Public Works Association

Association of Mental Health Administrators

Association of Rehabilitation Facilities

Big Brothers/Big Sisters of America

Boy's Clubs of America

Common Cause

Community Arts Councils of America

Council of Great City Schools

Day Care and Child Development Council of America

Drug Abuse Council

Girl's Clubs of America

Girl Scouts of America

Goodwill Indsutries of America, Inc.

The Institute for the Study of Drug Misuse

Junior Achievement of America, Inc.

League of Women Voters

National Association for the Deaf

National Association of Home Builders

National Association for Mental Health

National Association of Soil Conservation Districts

National Center for a Barrier Free Environment

APPENDIX IB
(continued)

NATIONAL ORGANIZATIONS (continued)

National Committee for Prevention of Child Abuse

National Correction Recreation Association

National Council of Community Mental Health Centers

National Council on Citizens' Participation

National Council for Homemaker-Home Health Aide Services

National Endowment for the Arts

National Education Association

The Nationa League of Cities

National Planning Association

The National Urban League

National Wildlife Foundation

North American Center for Adoption

New England Foundation for the Arts

Opportunities Industrialization Centers

Sierra Club

United Way of America

U.S. Chamber of Commerce

U.S. Conference of Mayors

Young Men's Christian Association

Young Women's Christian Association

APPENDIX IIA

PROJECTS AND ACTIVITIES IDENTIFIED AS CANDIDATES FOR LARGE-SCALE PUBLIC JOB CREATION

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
01.	COMMUNITY DEVELOPMENT RELATED SERVICES AND FACILITIES		
	0101.	Conduct Community Resource Identification Surveys	NE
	0109.	Staff Support for Citizen Participation Processes Required Under the Housing and Community Development Block Grant Program, Title XX - Social Services, etc.	5,150
	0110.	Labor Intensive Snow Removal Services	NE
	0111.	Neighborhood Revitalization	NE
	0112.	Abandoned Car Removal	NE
	0113.	Traffic Control	NE
	0114.	Community Clean-up, Beautification, and Other Litter Removal Activities	56,700
	0115.	Voter Education and Registration	NE
		Total	61,850

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
02.	CRIMINAL JUSTICE, CORRECTIONAL FACILITIES, AND PUBLIC SAFETY	
0201.	Staff Support for Parole and Probation Activities, Satellite (Community) Probation Offices, and Youth Offender Counseling	16,000
0204.	Staff Support for "Aid to Victims of Crime Centers" that provide emergency residential services, counseling, and legal advice to victims of recurring crimes such as child abuse, wife battering, etc.	NE
0205.	Facilities for "Aid to Victims of Crime Centers"	NE
0206.	Staff Support to Improve the Court Process providing clerical help, delivering of subpoenae, notification of witnesses and attorneys of changes in time, date or place of court proceedings	8,000
0207.	Day Care Staff Support to supervise children visiting correctional facilities	NE
0208.	Staff Support for Half-Way Houses for juvenile offenders, adolescents with drug related problems, etc.	NE
0209.	Staff Support for Recreation Programs in Correctional Facilities	3,200
0210.	Staff Support for Library and Education Programs in Correctional Facilities	3,200
0211.	Staff Support for Job Development, Placement, and Counseling Services for inmates of correctional institutions, youth offenders, and adults on probation	NE
0212.	Staff Support for Health Services in Correctional Institutions	3,200
0213.	Expand, Renovate, Rehabilitate, and Maintenance Work on Correctional Facilities	NE
0214.	Expand, Renovate, Rehabilitate, and Maintenance Work on Half-Way Houses	NE
0215.	Staff Support for Police - Community Relations Programs	NE
0216.	Staff Support for Volunteer Coordinators linking correctional facilities, half-way houses, etc. with community organizations	NE
0217.	Staff Support for Public Defender Offices and Legal Aid Societies	2,000

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
02.	CRIMINAL JUSTICE, CORRECTIONAL FACILITIES, AND PUBLIC SAFETY (CONTINUED)	
	0218. Staff Support for Court - School - Foster Home Liaison Activities	NE
	0219. Staff Support to Develop and Supervise Work-Release Activities for correctional institution inmates to do voluntary or paid public service related activities for community groups	NE
	0220. Staff Support for Coordination of Neighborhood Volunteer Citizen Patrols	NE
	0221. Staff Support for Law Enforcement Agencies, Police, and Sheriff Departments including dispatch operators, commercial security aides, field aides, etc.	168,000
	0222. Custodial Staff Support for Correctional Facilities	10,430
	0223. Staff Support for Property Identification Programs	3,500
	0224. Staff Support for Crime Prevention Education Programs and Counseling for Businesses and Local Citizens	11,580
	0225. Staff Support for Drug Abuse Information and Education	NE
	0226. Staff Support for Juvenile Correctional Facilities	6,000
	Total	235,110

Note: NE = No estimate.

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
03.	CULTURAL ACTIVITIES, MUSEUMS, AND PUBLIC LIBRARIES	
	0300. Staff Support for Community Theatres and Theatrical Education; Children's Theatres; Community Dance Groups and Classes; Community Choir, Jazz, or Opera Groups, Lessons; Community Symphonies and Musical Training; and Museums and Neighborhood Arts Council	50,000
	0307. Staff Support for Community Craft Shops and Painting Studios	NE
	0308. Cultural and Heritage Education Programs	NE
	0310. Staff Support for Public Libraries	NE
	0311. Staff Support for Bookmobiles and Extension of Public Libraries into rural areas, hospitals, nursing homes, etc.	NE
	0313. Commission of Murals and Sculptures in Public Buildings and in Public Places	NE
	0314. Community History Projects	NE
	0315. Library Archival Research on Local Residents' Family Roots	NE
	0316. Art Education in Public Schools, through use of the media, etc.	NE
	Total	50,000

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
04.	EDUCATION AND SCHOOL RELATED ACTIVITIES (SCHOOL BUILDINGS, RECREATION, AND OTHER PROGRAMS IN PUBLIC SCHOOL, ETC.)	
0401.	Staff Support for Early Detection of Reading and Learning Disabilities in Elementary Schools	15,770
0402.	Classroom and Teacher's Aides including bilingual aides, music aides, aides for educationally handicapped classes, etc.	237,870
0403.	Staff Support to Expand Work-Study Activities in Public Schools	6,000
0404.	Staff Support to Expand Vocational Education in Public Schools	21,100
0405.	Staff Support to Increase Field Trip Opportunities	NE
0406.	Staff Support for School Library Operations During School Year	48,000
0407.	Staff Support for School Library Operations During Summer	NE
0408.	Staff Support to Provide Free or Low-Cost Summer School Educational Opportunities for children, youth, and adults with reading or learning disabilities	NE
0409.	Staff Support to Expand Adult Educational Services and Training for the G.E.D. (High School Equivalency) Examination and Right to Read Program	40,000
0410.	Staff Support to Expand Bilingual Educational Services in regular public school curriculae, vocational education programs, and adult education classes	6,000
0411.	Staff Support for Organized and Supervised Recreation Programs in elementary and secondary schools during and after school	NE
0412.	Staff Support for Increasing Course Offerings in Public Schools	NE
0413.	Maintenance, Repair, and Rehabilitation of Public School Buildings and Grounds	64,400
0414.	School Security Guards and Hall Monitors	81,500
0415.	Clerical Staff for Microfilming and General Support	NE
0416.	Staff Support to Supervise after School Extracurricular Activities	NE

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
04.	EDUCATION AND SCHOOL RELATED ACTIVITIES (SCHOOL BUILDINGS, RECREATION AND OTHER PROGRAMS IN PUBLIC SCHOOLS, ETC.) (CONTINUED)	
	0417. Staff Support for Parent-Teacher Association	NE
	0418. Staff Support for Truancy Follow-up and Child Counseling Programs	113,700
	0419. Staff Support for After School Tutoring Programs using peer tutorers, teacher's aides, and the elderly, etc.	51,000
	0420. Staff Support for Community Colleges, Other Public Colleges and Universities	NE
	0421. Expand Number of Teachers to Achieve Better Teacher-Student Ratio	363,500
	0422. Staff Support for Skill Training and Other Vocational Training Courses	NE
	0423. Staff Support for Educational Opportunities for Ex-Offenders	2,000
	0424. Staff Support for Public Television Educational Programs	NE
	0425. New School Construction	NE
	0426. Increase Number of Teachers in Special Education Classes for the Handicapepd	160,000
	0427. Expand Number of Teachers for Kindergarten and Nursery Schools	13,000
	Total	1,223,840

Note: NE = No estimate

CODE	PROGRAM AREA		NUMBER OF ONSITE JOBS
05.	ENERGY CONSERVATION AND PRODUCTION		
	0501.	Home Related Construction Activities (i.e, insulation, winterization, and weatherization)	28,000
	0502.	Solar Energy Research, Development, and Construction Activities	NE
	0503.	Staff Support for Home Heating Fuel Cooperatives	NE
	0504.	Commission of Studies of Energy Waste in Public Buildings with additional follow-up for continuous monitoring of energy use practices in public buildings	5,600
	0505.	Staff Support for Outreach (Door to Door) Counseling in Businesses, Homes, Schools, etc., on Energy Conservation	5,300
		Total	38,900

Note: NE = No estimate

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
06.	ENVIRONMENTAL PROGRAMS		
	0601.	Labor Intensive Recycling Systems for Glass, Paper, Aluminum and Other Materials	25,000
	0602.	Reforestation of Strip Mined Areas	NE
	0603.	Protection of Endangered Plants and Animals, Fish, and Game Research	NE
	0605.	Water Storage Improvements	NE
	0607.	Sewerage Treatment Facility Improvements	NE
	0609.	Mosquito Control - Inspection and spraying of roadsides and breeding grounds, houses, and public buildings	6,300
	0610.	Rodent Control - Inspection and treatment of roadsides and breeding grounds, houses, and public buildings	4,300
	0611.	Staff Support for Nature Centers	NE
	0612.	Distribution and Installation of Water Conservation Kits including conservation counseling (Outreach)	NE
	0613.	Hazardous Materials Survey	5,000
	0615.	Animal Control (i.e., stray dog pick-up, etc.)	7,400
	0616.	Staff Support for Local Human Societies	NE
	0617.	Staff Support to Monitor Air Quality	32,000
	0618.	Staff Support to Monitor Noise Level	NE
	0619.	Staff Support to Monitor Water Quality, Discharge of Effluents	NE
	0620.	Staff Support to Survey Water Supplies	24,000
	0621.	Mapping of Water Mains, Sewerage Connections, etc.	NE
	0622.	Tree Related Disease Control Activities	NE
	0623.	Conduct Environmental Impact Studies	NE
	0625.	Layout, Survey, Construction of Soil Conservation Practices	1,200
	0626.	Site Preparation, Seeding of Eroding Roadsides	15,000

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
06.	ENVIRONMENTAL PROGRAMS (CONTINUED)	
0627.	Stream Channel Clearance	1,000
0628.	Flood Control Structure Maintenance	1,500
0629.	Timber Stand Improvements on Public Land	11,000
0630.	Timber Stand Improvements on Privately Owned (Non-Corporately Held) Land	33,000
0631.	Staff Support for Citizen Participation Process for Environmental Programs including the Resource Conservation and Recovery Act of 1976	2,300
0632.	Staff Support for Inventory of Solid Waste Open Dumping Areas, Record-keeping and Clerical Support for the Resource Conservation and Recovery Act of 1976	2,500
0633.	Conduct Idle Emissions Inspections of In-Use Vehicles	NE
0634.	Conduct Tampering Surveys on Air Pollution Equipment in inspection systems for cars and trucks	NE
0635.	Sample from Retail Gasoline Stations and have these samples analyzed for lead, octane, and MMT content	NE
0636.	Survey and Inspect New Vehicle Dealerships for compliance with the fuel economy labeling requirements	NE
	Total	171,500

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
07.	FEDERAL GOVERNMENT STAFFING INCREASES	
0701.	Staff Support for Expansion of Farmer's Home Administration to Improve Loan Processing	1,700
0702.	Staff Support for the Bureau of Immigration and Naturalization Service to process the backlog of adjudications and implement the Amnesty Program	1,200
0703.	Staff Support for the National Rural Center or Some Federal Agency to improve the delivery of information about government programs to rural areas. In addition, this staff would provide rural areas with the technical assistance they need to write grant applications, proposals, etc., for federal funds.	NE
0704.	Cooperative Extension Service (U.S.D.A.)	75,000
	Total	77,900
08.	FIRE PROTECTION AND PREVENTION	
0801.	Staff Support for Fire Prevention Programs such as speeches, displays, and other presentations offered in public schools, to community groups, employees at their place of work, homes	5,100
0802.	Fire Haard Inspections in Public Buildings, Public Housing Units, and Businesses	5,700
0803.	Staff Support for Local Voluntary and Paid Fire Departments	NE
0804.	Fire Prevention in Wooded Areas	NE
	Total	10,800

Note: NE = No estimate

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
09.		FOOD AND NUTRITION ORIENTED ACTIVITIES	
	0901.	Staff Support for the Expansion and Establishment of Gardening Projects	NE
	0902.	Planting of Crops in areas where none or less than the optimal amount is being planted	NE
	0903.	Staff Support for Food Cooperatives and Other Methods to distribute food more directly from farmer to customer	NE
	0904.	Construction and Staff Support for Low-Cost Solar Heated Greenhouses	NE
	0905.	Staff Support for School Breakfast Program	NE
	0906.	Staff Support to Provide Nutritional Information and Food Purchasing Counseling	NE
		Total	NE
10.		HEALTH CARE	
	1001.	Staff Support for Community Health Centers and Related Services including community health workers, environmental health workers, and health counselors	24,000
	1002.	Paraprofessionals, Clerical, and Other Staff Support in Hospitals, Clinics and Other Short Term Care Facilities (other than those listed in 1001)	NE
	1003.	Paraprofessionals, Clerical, and Other Staff Support for Long Term Care Facilities such as nursing homes, hospitals, etc.	NE
	1004.	Preventive Health Screening Services, Follow-up, and Referrals	18,000
		Total	42,000

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
11.	HOUSING AND PUBLIC HOUSING RELATED ACTIVITIES	
1101.	Housing Rehabilitation (extensive)	76,400
1102.	Housing Rehabilitation (moderate)	23,000
1103.	Housing Rehabilitation (minor home repairs)	7,600
1104.	Security Guards/Patrol for Public Housing Projects	6,800
1105.	Resident Managers for Public Housing Projects	NE
1106.	Develop Playground, Recreation Facilities, and Organized Programs for Housing Project Residents	NE
1107.	Staff Support for Landlord-Tenant Counseling Activities	NE
1108.	Conduct General Housing Inspections for Lead Based Paint Code Enforcement, Eligibility for Section 8, and Other Federally Supported Housing Programs	3,000
1109.	Lead Based Paint Removal from Public Housing Units, Private Houses, and Public Buildings	2,000
1110.	Staff Support for Emergency Residential Facilities for the Disadvantaged	NE
1111.	Conduct Housing Abandonment Surveys	1,200
1112.	Replacement of Inadequate Lock, Security Devices in Houses and Public Buildings	NE
	Total	120,000

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
12.	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS	
1201.	Park, County Park, etc.	7,100
1202.	Police Station	4,200
1203.	Fire and/or Resuce Station(s)	5,300
1204.	Jail, Prison, Detention Facility	9,700
1205.	Municipal Office Building, Town Hall, Courthouse	41,800
1206.	Hospital, Clinic, Nursing Home, Health Center	12,600
1207.	Arena, Stadium, Bleachers, Pavilion	3,100
1208.	Auditorium, Theater	3,200
1209.	Gymnasium, Swimming Pool, Recreational Building	17,400
1210.	Community Center, Social Service Center	11,300
1211.	School, Learning or Training Facility	81,600
1212.	Library	6,000
1213.	Museum, Cultural Center, Science Center	8,900
1214.	Air, Water, Rail Terminal Buildings	2,500
1215.	Garage, Parking Structure	6,800
1216.	Factory, Cannery, Processing Plant	300
1217.	Shell Industrial Building, Warehouse, Market	4,100
1218.	Port Facility, Harbor Development	5,700
1219.	Electric Power Plant, Generating Facility	800
1220.	Dwelling Units, Houses, Apartments	2,700
1222.	Dams, Levees, Dikes, Flood Control Structures	700
1224.	Water System (lines plus well, reservoir, etc.)	24,600
1225.	Water Source Development (reservoir, well, etc.)	3,300
1226.	Water Treatment Facility (potable)	5,900

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
12.	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS (CONTINUED)	
1227.	Sewer Lines, Mains, Trunks	12,200
1228.	Sewer System (lines plus outfall, pumping, etc.)	25,000
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	12,600
1230.	Street, Road, Highway (may include sidewalk)	31,300
1231.	Sidewalks, Curbs, Gutters	3,100
1232.	Combines Water/Sewage and Street/Road and Sidewalk	8,700
1233.	Parking Lots	500
1234.	Multiple Utility-type Project	22,000
1235.	Architectural Barrier Removal in Public Libraries	12,700
1236.	Architectural Barrier Removal in Other Public Non-Educational Buildings	25,400
1237.	Architectural Barrier Removal in Educational Facilities	10,400
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	13,800
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	1,600
	Total	448,900

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
13.	LOCAL GOVERNMENT ADMINISTRATIVE STAFF (INCLUDING CETA AND ES)	
1301.	Outreach Staff Support to Register the Long Term Unemployed and Discouraged Workers for CETA	NE
1302.	Additional Minority and Bilingual Staff Support for Local Offices of the Employment Service to aid these groups in utilizing their services	NE
1303.	Additional Bilingual Staff Support for Local Government Social Service Agencies	NE
1304.	Staff Support to Conduct Study of Skill Mix Profile of the Unemployed by Local and Sub-Local Areas in order to provide government and businesses better labor market information	NE
1305.	Staff Support for Broad Based Study Commissions in every major city to study urban redevelopment strategies	NE
1306.	Staff Support to Conduct General Needs Assessment Study for Local Governments	NE
	Total	NE

Note: NE = No estimate

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
14.	PARKS AND RECREATION		
	1401.	Trail Reconstruction and Development	NE
	1402.	Building and Upgrading Center City and Rural Parks	NE
	1404.	Park Maintenance and Landscaping, Park Supervisors, Water Recreation Supervisors and Aides	7,300
	1406.	Reforestation of Parks and Woodlands, Other National Forest Services	40,000
	1407.	Summer Day Camps for the Disadvantaged, Youth, the Handicapped, and the Elderly	NE
	1408.	Construction of Ecological Games, Informational Signs in Parks	NE
	1409.	Development, Beautification, and Restoration of Town Waterfronts, Lake Areas, and Potential Water Recreation Sites in Urban and Rural AReas	NE
	1410.	Build and Maintain Bikeways	NE
	1411.	Recreational Staff Support for YMCAs, YWCAs, Other Non-Profit Recreational Centers, Large Housing Projects, Public School Districts, and Local Government Operated Recreational Facilities	NE
	1412.	Staff Support for Organized Recreational Activities for the Elderly and Handicapped	NE
		Total	47,300

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
15.	PRIVATE (FOR PROFIT) SECTOR ORIENTED ACTIVITIES	
	1503. On-the-Job Training in the Private Sector	NE
	1504. Job Search Project: Staff support for a project designed to bring small groups of previously screened unemployed workers to companies and factories who are advertising for employees. Private companies would make available a personnel officer to describe the company, give a tour, and receive job applications. Bilingual aides provided by CETA where necessary.	6,800
	1505. Tourism Promotion	NE
	1506. Staff Support for Local Chambers of Commerce	NE
	Total	6,800
16.	SOCIAL SERVICES - CHILDREN AND YOUTH	
	1601. Staff Support for Big Brother/Big Sister Programs	1,500
	1602. Staff Support for Boy/Girl Scouts	NE
	1603. Staff Support for Boy's/Girl's Associations and Drop-in Centers	13,200
	1604. Staff Support for Day Care Services including day care centers, nursery schools, in-home day care services, etc.	34,100
	1605. Staff Support for Afterschool and 24-Hour Day Care Services	NE
	1606. Staff Support for Adoption Agencies and Foster Care Activities including homemaker services for families with child care problems, "relief" or "weekend" foster parents, homemaker services for families with foster children, staff support for foster care group homes and child welfare agencies	13,000
	1607. Staff Support for Day Care Services	105,000
	Total	166,800

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
17.	SOCIAL SERVICES - FOR THE ELDERLY AND/OR MENTALLY OR PHYSICALLY HANDICAPPED	
1701.	Staff Support for Senior Citizen Community Centers	6,900
1704.	Homemaker and Long-Term Care Services for the Elderly, and Mentally or Physically Disabled; including escort services to and from banks, shopping centers, in high crime areas, at night, etc., for the elderly, deaf, blind, mentally or otherwise physically handicapped and transportation to and from medical facilities, shopping, recreation activities, social visits, etc.	138,200
1705.	Staff Support for Shopping Services - the purchase and delivery of food, prescription drugs, laundry, etc.	NE
1706.	Lawn Care Servcies	NE
1707.	Staff Support for Arts and Crafts Project to teach elderly and handicapped how to produce marketable crafts	NE
1708.	Staff Support to Facilitate the Exhibition and/or Sale of Crafts and Other Goods produced by the elderly or handicapped	NE
1710.	Staff Support for Sheltered Workshops and Vocational Rehabilitation Facilities including liasion staff who contact private businesses and public agencies and secure work that the elderly and handicapped can do in their workshop or home	30,100
1711.	Staff Support for Counter-Loneliness (Phone-Pal) Programs	NE
1712.	Local Needs Assessment Studies for Elderly and Handicapped	NE
1713.	Reader Services for the Blind	NE
1714.	Staff Support for Centers Teaching Braille and Providing Services to the Blind	NE
1715.	Staff Support for Hearing and Speech Centers Teaching Sign Language and Providing Services for the Deaf	NE
1716.	Ancillary and Day Care Staff Support for Residential and Commuter Oriented Centers for the Retarded	NE

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
17.	SOCIAL SERVICES - FOR THE ELDERLY AND/OR MENTALLY OR PHYSICALLY HANDICAPPED (CONTINUED)		
	1717.	Ancillary and Patient Day Care Staff Support for Mental Health Institutions	NE
	1718.	Staff Support for Special Information and Referral System Designed to Aid the Elderly and Handicapped	NE
	1719.	Staff Support for Senior Citizen/Handicapped Person's Employment Agency that provides job development servcies exclusively for these target groups	NE
	1720.	Staff Support for Community Mental Health Facilities	NE
	1721.	Staff Support for Goodwill Industries of America, Inc.	2,500
	1722.	Meals on Wheels Programs	99,000
	1723.	Staff Support to Prepare "Community Dinners" where large concentrations of elderly and handicapped live	NE
		Total	276,700
18.	SOCIAL SERVICES - GENERAL		
	1801.	Staff Support for Neighborhood Community Centers	11,000
	1802.	Staff Support for Crisis Intervention - Hot Line Phone Service Information and Referral Services	6,100
	1803.	Staff Support for Alcoholism Control and Prevention	NE
	1804.	Comprehensive Employment, Training, Counseling, and Social Services for Specific Target Populations (i.e, third generation welfare recipients, etc.)	NE
	1805.	Family Planning Services	NE
	1806.	Family Counseling	NE
	1807.	Staff Support for Outreach Activities informing residents of the available resoruces in their community	6,100
		Total	23,200

Note: NE = No estimate

CODE	PROGRAM AREA		NUMBER OF ONSITE JOBS
19.	SOCIAL SERVICES - WOMEN		
	1901.	Needs Assessment Studies for Women	NE
	1902.	Displaced Homemakers Centers	NE
	1903.	Pre-Employment Training for Women Entering or Reentering the Labor Force After a Long Absence	NE
		Total	NE
20.	SOCIAL SERVICES - OTHER		
	2001.	Staff Support for Outreach and Other Social Services for Migrant and Other Farmworkers	NE
		Total	NE
21.	TRANSPORTATION		
	2101.	Staff Support for Public Transportation Systems	NE
	2102.	Staff Support for Community Based and Other Non-Profit Organizations to provide transportation services organization	NE
	2105.	Staff Support for Airports such as security aides, linepersons, fuelers, maintenance staff, etc.	NE
	2106.	Railbed Maintenance and Rehabilitation	NE
		Total	NE
22.	OTHER		

Note: NE = No estimate

APPENDIX IIB

DETAILED STATISTICS BY ACTIVITY

APPENDIX IIB
Table 2B.1
JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
	COMMUNITY DEVELOPMENT						
0109.	Citizen Participation for HUD - Block Grant Program, "701" Planning Grants	#5	5.1	50.5	40.2	2.0	8.3
0114.	Community Clean-Up, Beautification, Litter Removal	#5	56.7	544.0	435.2	65.3	43.5
	CRIMINAL JUSTICE						
0201.	Probation and Parole Activities and Youth Offender Counseling	#1	16.0	154.0	128.3	6.4	19.3
0206.	Clerical and Support Staff for State and Local Courts	#1	8.0	95.0	79.2	4.0	11.8
0209.	Recreation Programs in Correctional Facilities	#1	3.2	33.6	26.9	2.7	4.0
0210.	Library and Education Programs in Correctional Facilities	#1	3.2	32.4	25.9	2.6	3.9
0212.	Health Services in Correctional Facilities	#1	3.2	30.5	24.4	2.4	3.7
0217.	Public Defender Offices and Legal Aid Societies	#1	2.0	21.5	17.9	.9	2.7
0221.	Police and Sheriff Departments - Primary and Support Staff	#1	168.0	1856.4	1428.0	214.2	214.2
0222.	Custodial Staff Support for Correctional Facilities	#1	10.4	102.0	85.0	4.3	12.7
0223.	Property Identification Program	#3	3.5	33.4	27.8	1.4	4.2

APPENDIX IIB
Table 2B.1
JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions) Total	Wage	Materials	Administration
0224.	Crime Prevention Education Programs	#5	11.6	111.6	93.1	4.6	13.9
0226.	Juvenile Correction Facilities	#1	6.0	55.9	46.6	2.3	7.0
	CULTURAL ACTIVITIES						
0300.	Community Theatres, Dance Groups, Choirs, Museums and Neighborhood Arts Councils	#4	50.0	400.0	320.0	32.0	48.0
	EDUCATION						
0401.	Early Detection of Reading and Learning Disabilities in Elementary Schools	#4	15.8	177.7	136.7	13.7	27.3
0402.	Classroom and Teacher Aides	#4	237.9	1641.3	1427.2	71.4	142.7
0403.	Work-Study Programs in Public Schools	#4	6.0	57.1	49.7	2.4	5.0
0404.	Vocational Education in Public Schools	#4	21.1	432.0	196.3	196.3	39.4
0406.	School Libraries	#4	48.4	691.7	406.8	203.4	81.5
0409.	Adult Education	#3	40.0	380.3	339.6	17.0	23.7
0410.	Bilingual Education	#4	5.9	68.9	55.1	2.8	11.0
0413.	Maintenance, Repair and Rehabilitation of Public Schools	#4	64.4	762.5	476.6	238.3	47.6

APPENDIX IIB
Table 2B.1
JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
0414.	School Security Guards and Hall Monitors	#4	81.5	759.8	633.2	63.3	63.3
0418.	Truancy Follow-Up and Child Counseling	#4	113.7	1555.9	1111.3	222.3	222.3
0419.	After School Tutoring Programs	#4	50.6	364.3	303.5	30.4	30.4
0421.	Increase Number of Teachers to Achieve Better Teacher-Student Ratio	#1	363.5	4225.7	3380.5	338.1	507.1
0423.	Educational Opportunities for Ex-Offenders	#3	2.0	25.2	18.7	2.8	3.7
0426.	Special Education Programs for the Handicapped	#1	160.0	1860.0	1488.0	148.8	223.2
0427.	Nursery School and Kindergarten	#1	13.0	238.5	176.7	35.3	26.5
	ENERGY CONSERVATION						
0501.	Home Related Construction Activities	#1	28.0	469.5	209.0	232.5	28.0
0504.	Studies of Energy Waste in Public Buildings	#5	5.6	53.6	39.5	5.9	7.9
0505.	Outreach Counseling on Energy Conservation	#5	5.3	45.6	35.0	5.3	5.3
	ENVIRONMENTAL PROGRAMS						
0601.	Labor Intensive Recycling Systems	#3	25.0	396.4	188.8	188.8	18.8
0609.	Mosquito Control	#5	6.3	63.1	48.5	9.7	4.9

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
0610.	Rodent Control	#5	4.3	38.5	33.1	2.1	3.3
0613.	Hazardous Materials Surveys	#3	5.0	47.6	35.3	7.0	5.3
0615.	Animal Control (Stray Dog Pick-Up)	#5	7.4	70.7	56.6	8.5	5.6
0617.	Monitor Air Quality	#4	32.0	226.3	196.8	9.8	19.7
0619.	Monitor Water Quality, Discharge of Effluents	#4					
0620.	Survey Water Supplies	#3	24.0	177.1	147.6	7.4	22.1
0625.	Soil Conservation Practices	#1	1.2	12.8	8.0	3.2	1.6
0626.	Site Preparation and Seeding of Eroding Roadsides	#1	15.0	144.0	90.0	36.0	18.0
0627.	Stream Channel Clearance	#1	1.0	9.6	6.0	2.4	1.2
0628.	Flood Control Structure Maintenance	#1	1.5	14.4	9.0	3.6	1.8
0629.	Timber Stand Improvements on Public Land	#1	11.0	112.0	70.0	28.0	14.0
0630.	Timber Stand Improvements on Privately Owned (Non-corporately Held) Land	#1	33.0	336.0	210.0	84.0	42.0
0631.	Citizen Participation Process in Environmental Programs	#1	2.3	17.3	14.4	.7	2.2
0632.	Inventory, Record Keeping of Solid Waste Open Dumping Areas	#4	2.5	23.5	17.4	3.5	2.6

APPENDIX IIB

Table 28.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
	FEDERAL GOVERNMENT						
0701.	Farmer's Home Administration	#4	1.7	15.3	12.3	1.2	1.8
0702.	Bureau of Immigration and Naturalization	#4	1.2	10.1	8.4	.4	1.3
0704.	Cooperative Extension Service	#4	75.0	600.0	480.0	48.0	72.0
	FIRE PROTECTION AND PREVENTION						
0801.	Fire Prevention Programs	#5	5.1	41.8	34.8	1.7	5.3
0802.	Fire Hazard Inspections	#5	5.7	48.6	38.9	3.9	5.8
	HEALTH CARE						
1001.	Community Health Centers	#4	24.0	210.0	168.0	16.8	25.2
1004.	Preventive Health Screening Services, Follow-Up and Referrals	#1	18.0	135.0	108.0	5.4	21.6
	HOUSING						
1101.	Housing Rehabilitation (Extensive)	#1	76.4	1900.0	950.0	760.0	190.0
1102.	Housing Rehabilitation (Moderate)	#1	22.9	570.0	285.0	228.0	57.0
1103.	Housing Rehabilitation (Minor Home Repair)	#1	7.6	190.0	95.0	76.0	19.0
1104.	Security Guards/Patrols for Public Housing Projects	#4	6.8	57.1	49.6	5.0	2.5
1108.	Housing Inspections	#1	3.0	28.4	23.6	1.3	3.5

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
1109.	Lead Based Paint Removal	#1	2.0	18.2	15.6	1.0	1.6
1111.	Housing Abandonment Surveys	#5	1.3	12.1	9.3	1.4	1.4
	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS						
1201.	Park, County Park, etc.	#1	7.1	28.0	90.9	175.4	13.7
1202.	Police Station	#1	4.2	163.7	53.1	102.6	8.0
1203.	Fire and/or Rescue Station(s)	#1	5.3	208.4	67.7	130.5	10.2
1204.	Jail, Prison, Detention Facility	#1	9.7	380.4	123.5	2.4	18.5
1205.	Municipal Office Building, Town Hall, Courthouse	#1	41.8	1639.6	532.3	1035.9	79.8
1206.	Hospital, Clinic, Nursing Home, Health Center	#1	12.6	601.9	160.5	4173.0	24.1
1207.	Arena, Stadium, Bleachers, Pavilion	#1	3.1	146.9	39.2	1018.0	5.9
1208.	Auditorium, Theater	#1	3.3	155.8	41.5	109.1	6.2
1209.	Gymnasium, Swimming Pool, Recreational Building	#1	17.4	833.1	222.2	577.6	33.3
1210.	Community Center, Social Service Center	#1	11.3	541.0	144.3	375.1	21.6
1211.	School, Learning or Training Facility	#1	81.6	3901.9	1040.5	2705.0	156.4
1212.	Library	#1	6.0	286.1	76.3	208.7	1.1

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
1213.	Museum, Cultural Center, Science Center	#1	2.9	138.2	36.8	95.9	5.5
1214.	Air, Water, Rail Terminal Buildings	#1	2.5	121.3	32.3	84.1	4.9
1215.	Garage, Parking Structure	#1	6.8	326.4	8.7	226.3	13.1
1216.	Factory, Cannery, Processing Plant	#1	.4	17.0	4.5	11.8	.7
1217.	Shell Industrial Building, Warehouse, Market	#1	4.1	196.5	52.4	136.2	7.9
1218.	Port Facility, Harbor Development	#1	5.7	188.0	72.6	79.1	36.3
1219.	Electric Power Plant, Generating Facility	#1	.8	59.0	10.5	42.2	6.3
1220.	Dwelling Units, Houses, Apartments	#1	2.7	117.4	34.2	78.1	5.1
1222.	Dams, Levees, Dikes, Flood Control Structures	#1	.7	71.9	26.0	34.3	11.6
1224.	Water System (Lines Plus Well, Reservoir, etc.)	#1	24.5	1119.2	298.4	776.0	44.8
1225.	Water Source Development (Reservoir, Well, etc.)	#1	3.3	148.9	39.7	103.2	6.0
1226.	Water Treatment Facility (Potable)	#1	5.9	268.7	71.7	186.3	10.7
1227.	Sewer Lines, Mains, Trunks	#1	12.2	535.8	140.6	374.1	21.1
1228.	Sewer System (Lines Plus Outfall, Pumping, etc.)	#1	24.9	1136.8	303.1	829.2	4.5
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	#1	12.6	573.4	152.9	397.6	22.9

APPENDIX IIB
Table 2B.1
JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Adminis-tration
1230.	Street, Road, Highway (May Include Sidewalk)	#1	31.3	1752.8	389.5	1304.9	58.4
1231.	Sidewalks, Curbs, Gutters	#1	3.1	171.3	38.1	127.5	5.7
1232.	Combines Water/Sewage and Street/Road and Sidewalk	#1	8.7	433.2	104.1	313.5	15.6
1233.	Parking Lots	#1	.5	28.4	6.4	21.1	.9
1234.	Multiple Utility-type Project	#1	21.9	661.2	290.0	321.9	49.3
1235.	Architectural Barrier Removal in Public Libraries	#3	12.7	261.0	130.5	116.9	13.6
1236.	Architectural Barrier Removal in Other Public Non-educational Buildings	#3	25.4	522.0	261.0	234.9	26.1
1237.	Architectural Barrier Removal in Educational Facilities	#3	10.4	215.0	107.5	96.8	10.7
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	#3	13.8	236.4	123.8	70.2	12.4
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	#3	1.6	24.3	14.5	8.3	1.5

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
	PARKS AND RECREATION						
1404.	Park Maintenance, Park and Water Recreation Supervisors and Aides	#5	7.3	55.9	48.6	2.4	4.9
1406.	Reforestation of Parks and Woodlands and Other National Forest Service Programs	#1	40.0	338.0	260.0	52.0	26.0
	PRIVATE (FOR PROFIT) SECTOR ORIENTED ACTIVITIES						
1504.	Job Search Project	#5	6.8	72.1	53.4	8.0	10.7
	SOCIAL SERVICES FOR CHILDREN AND YOUTH						
1601.	BigBrothers/Big Sisters of America	#4	1.5	14.5	13.2	----	1.3
1603.	Boy's/Girl's Associations and Drop In Centers	#4	13.2	157.9	121.4	24.3	12.2
1604.	Day Care Services (Expansion of Existing Services)	#1	34.5	286.3	226.7	24.7	34.9
1605.	Day Care Services (New Services)	#1	105.0	822.8	715.5	35.8	71.5
1606.	Adoption Agencies, Foster Care Activities, Child Welfare Agencies	#4	13.0	107.3	93.0	.3	14.0
	SOCIAL SERVICES FOR THE ELDERLY AND MENTALLY OR PHYSICALLY HANDICAPPED						
1701.	Senior Citizen Community Centers	#5	6.9	59.3	47.4	4.7	7.2

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions) Total	Wage	Materials	Administration
1704.	Homemaker and Long Term Personal Care Services, Escort and Transportation Services	#3	138.2	1207.1	862.2	86.2	258.7
1710.	Sheltered Workshops and Vocational Rehabilitation Facilities	#1	30.1	416.2	258.9	85.0	72.3
1711.	Counter-Loneliness (Phone-Pal) Programs	#5					
1721.	Goodwill Industries of America, Inc.	#1	2.5	23.2	18.6	1.5	3.1
1722.	Meals on Wheels Programs	#1	99.0	1260.2	612.0	556.2	91.8
	SOCIAL SERVICES - GENERAL						
1801.	Neighborhood Community Centers	#5	11.0	99.8	79.8	8.0	12.0
1802.	Crisis Intervention - Hot Line Phone Services	#5	6.1	65.5	48.5	9.7	7.3
1807.	General Outreach Activities Informing Residents of Available Resources	#5	6.1	52.7	41.3	2.0	8.4

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	COMMUNITY DEVELOPMENT								
0109.	Citizen Participation for HUD - Block Grant Program, "701" Planning Grants	1,214	---	---	1,357	---	---	---	2,570
0114.	Community Clean-Up, Beautification, Litter Removal	---	---	---	---	2,835	5,670	48,195	---
	CRIMINAL JUSTICE								
0201.	Probation and Parole Activities and Youth Offender Counseling	6,525	---	---	9,475	---	---	---	---
0206.	Clerical and Support Staff for State and Local Courts	4,000	1,600	---	2,400	---	---	---	---
0209.	Recreation Programs in Correctional Facilities	640	---	---	---	---	---	---	2,560
0210.	Library and Education Programs in Correctional Facilities	1,600	---	---	320	---	---	---	1,280
0212.	Health Services in Correctional Facilities	320	---	---	320	---	---	---	2,560
0217.	Public Defender Offices and Legal Aid Societies	1,300	---	---	700	---	---	---	---
0221.	Police and Sheriff Departments - Primary and Support Staff	67,200	16,800	---	67,200	---	16,800	---	---
0222.	Custodial Staff Support for Correctional Facilities	---	1,043	---	3,440	---	---	---	5,942
0223.	Property Identification Program	---	345	---	345	---	2,659	---	---

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
0224.	Crime Prevention Education Programs	1,158	---	---	2,316	---	8,150	---	---
0226.	Juvenile Correction Facilities	1,380	230	---	1,564	---	---	---	2,826
	CULTURAL ACTIVITIES								
0300.	Community Theatres, Dance Groups, Choirs, Museums and Neighborhood Arts Councils	---	---	---	---	20,000	---	---	30,000
	EDUCATION								
0401.	Early Detection of Reading and Learning Disabilities in Elementary Schools	10,228	---	---	5,539	---	---	---	---
0402.	Classroom and Teacher Aides	---	---	---	---	---	---	---	237,872
0403.	Work-Study Programs in Public Schools	3,600	---	---	1,800	---	---	---	600
0404.	Vocational Education in Public Schools	21,111	---	---	---	---	---	---	---
0406.	School Libraries	24,217	---	---	24,217	---	---	---	---
0409.	Adult Education	32,000	---	---	---	---	---	---	8,000
0410.	Bilingual Education	5,923	---	---	---	---	---	---	---
0413.	Maintenance, Repair and Rehabilitation of Public Schools	---	---	---	---	6,440	---	25,760	32,200

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
0414.	School Security Guards and Hall Monitors	---	---	---	---	72,115	---	---	9,376
0418.	Truancy Follow-Up and Child Counseling	103,459	--	---	10,232	---	---	---	---
0419.	After School Tutoring Programs	---	---	---	---	---	---	---	50,594
0421.	Increase Number of Teachers to Achieve Better Teacher-Student Ratio	363,500	---	---	---	---	---	---	---
0423.	Educational Opportunities for Ex-Offenders	2,005	---	---	---	---	---	---	---
0426.	Special Education Programs for the Handicapped	160,000	---	---	---	---	---	---	---
0427.	Nursery School and Kindergarten	13,000	---	---	---	---	---	---	---
	ENERGY CONSERVATION								
0501.	Home Related Construction Activities	---	---	---	---	7,000	---	21,000	---
0504.	Studies of Energy Waste in Public Buildings	1,126	---	---	4,504	---	---	---	---
0505.	Outreach Counseling on Energy Conservation	530	---	---	1,060	---	---	---	3,707
	ENVIRONMENTAL PROGRAMS								
0601.	Labor Intensive Recycling Systems	3,750	2,500	---	1,250	---	2,500	15,000	---
0609.	Mosquito Control	---	---	---	---	315	1,575	4,411	---

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
0610.	Rodent Control	---	---	---	250	---	1,000	1,500	1,500
0613.	Hazardous Materials Surveys	500	500	---	250	---	---	---	3,750
0615.	Animal Control (Stray Dog Pick-Up)	---	---	---	---	368	1,479	5,527	---
0617.	Monitor Air Quality	---	1,600	---	---	---	---	---	30,400
0619.	Monitor Water Quality, Discharge of Effluents								
0620.	Survey Water Supplies	---	1,200	---	---	---	---	---	22,800
0625.	Soil Conservation Practices	---	---	---	---	200	---	1,000	---
0626.	Site Preparation and Seeding of Eroding Roadsides	---	---	---	---	---	---	15,000	---
0627.	Stream Channel Clearance	---	---	---	---	---	---	1,000	---
0628.	Flood Control Structure Maintenance	---	---	---	---	---	---	1,500	---
0629.	Timber Stand Improvements on Public Land	---	---	---	---	1,000	---	10,000	---
0630.	Timber Stand Improvements on Privately Owned (Non-corporately Held) Land	---	---	---	---	3,000	---	30,000	---
0631.	Citizen Participation Process in Environmental Programs	---	450	1,800	---	---	---	---	---
0632.	Inventory, Record Keeping of Solid Waste Open Dumping Areas								

APPENDIX 11B

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	FEDERAL GOVERNMENT								
0701.	Farmer's Home Administration	414	---	---	1,211	---	---	---	78
0702.	Bureau of Immigration and Naturalization	---	---	---	1,200	---	---	---	---
0704.	Cooperative Extension Service	---	7,500	---	---	7,500	---	---	60,000
	FIRE PROTECTION AND PREVENTION								
0801.	Fire Prevention Programs	512	512	---	512	---	---	---	3,586
0802.	Fire Hazard Inspections	571	571	---	571	---	---	---	3,999
	HEALTH CARE								
1001.	Community Health Centers	---	---	---	---	---	---	---	24,000
1004.	Preventive Health Screening Services, Follow-Up and Referrals	---	---	---	---	---	---	---	18,000
	HOUSING								
1101.	Housing Rehabilitation (Extensive)	760	---	---	310	49,640	460	25,210	---
1102.	Housing Rehabilitation (Moderate)	229	---	---	92	14,894	137	7,562	---
1103.	Housing Rehabilitation (Minor Home Repair)	76	---	---	31	4,964	46	2,521	---
1104.	Security Guards/Patrols for Public Housing Projects	680	---	---	---	---	---	---	6,120
1108.	Housing Inspections	591	---	---	591	---	---	---	1,771

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
1109.	Lead Based Paint Removal	---	---	---	200	---	---	1,200	600
1111.	Housing Abandonment Surveys	126	---	---	252	---	---	---	883
	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS								
1201.	Park, County Park, etc.	348				3,981	643	2,097	64
1202.	Police Station	201				2,328	376	1,226	37
1203.	Fire and/or Rescue Station(s)	256				2,964	479	1,562	47
1204.	Jail, Prison, Detention Facility	467				5,409	874	2,850	87
1205.	Municipal Office Building, Town Hall, Courthouse	2,013				23,314	3,767	12,284	374
1206.	Hospital, Clinic, Nursing Home, Health Center	607				7,030	1,136	3,704	113
1207.	Arena, Stadium, Bleachers, Pavilion	140				1,715	277	900	27
1208.	Auditorium, Theater	157				1,819	294	958	29
1209.	Gymnasium, Swimming Pool, Recreational Building	804				9,730	1,572	5,126	156
1210.	Community Center, Social Service Center	546				6,319	1,021	3,329	101
1211.	School, Learning or Training Facility	3,935				45,569	7,362	24,009	730
1212.	Library	289				3,342	540	1,761	54

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1213.	Museum, Cultural Center, Science Center	139				1,614	261	850	26
1214.	Air, Water, Rail Terminal Buildings	122				1,417	229	746	23
1215.	Garage, Parking Structure	329				3,812	616	2,008	61
1216.	Factory, Cannery, Processing Plant	17				198	32	104	3
1217.	Shell Industrial Building, Warehouse, Market	198				2,295	371	1,209	37
1218.	Port Facility, Harbor Development	275				3,180	514	1,675	51
1219.	Electric Power Plant, Generating Facility	93				467	154	94	
1220.	Dwelling Units, Houses, Apartments	97				1,607	19	935	24
1222.	Dams, Levees, Dikes, Flood Control Structures	69				316	186	112	
1224.	Water System (Lines Plus Well, Reservoir, etc.)	1,900				6,579	5,068	11,003	
1225.	Water Source Development (Reservoir, Well, etc.)	253				876	674	1,464	
1226.	Water Treatment Facility (Potable)	456				1,579	1,217	2,642	
1227.	Sewer Lines, Mains, Trunks	895				595	3,144	7,460	99
1228.	Sewer System (Lines Plus Outfall, Pumping, etc.)	1,930				6,682	5,148	11,115	
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	973				3,371	2,597	5,637	

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1230.	Street, Road, Highway (May Include Sidewalk)	2,381	---	---	---	12,510	7,533	8,885	---
1231.	Sidewalks, Curbs, Gutters	233	---	---	---	1,222	736	868	---
1232.	Combines Water/Sewage and Street/Road and Sidewalk	650	---	---	---	1,893	2,171	3,950	37
1233.	Parking Lots	39	---	---	---	203	122	144	---
1234.	Multiple Utility-type Project	2,768	---	---	---	12,874	1,842	4,438	---
1235.	Architectural Barrier Removal in Public Libraries	635	---	---	---	6,353	635	5,082	---
1236.	Architectural Barrier Removal in Other Public Non-educational Buildings	1,270	---	---	---	12,706	1,270	10,164	---
1237.	Architectural Barrier Removal in Educational Facilities	519	---	---	---	5,193	519	4,156	---
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	---	---	---	---	3,439	688	9,630	---
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	---	---	---	---	405	81	1,534	---

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	PARKS AND RECREATION								
1404.	Park Maintenance, Park and Water Recreation Supervisors and Aides	---	---	---	---	732	---	---	6,600
1406.	Reforestation of Parks and Woodlands and Other National Forest Service Programs	2,000	4,000	---	---	---	---	34,000	---
	PRIVATE (FOR PROFIT) SECTOR ORIENTED ACTIVITIES								
1504.	Job Search Project	685	---	---	2,739	---	3,425	---	---
	SOCIAL SERVICES FOR CHILDREN AND YOUTH								
1601.	BigBrothers/Big Sisters of America	34	100	---	1,400	---	---	---	---
1603.	Boy's/Girl's Associations and Drop In Centers	2,640	2,640	---	2,640	---	---	2,640	2,640
1604.	Day Care Services (Expansion of Existing Services)	---	---	---	---	---	---	19,665	14,835
1605.	Day Care Services (New Services)	10,500	---	---	---	---	---	53,550	40,950
1606.	Adoption Agencies, Foster Care Activities, Child Welfare Agencies	1,860	1,860	---	---	---	---	---	9,300
	SOCIAL SERVICES FOR THE ELDERLY AND MENTALLY OR PHYSICALLY HANDICAPPED								
1701.	Senior Citizen Community Centers	---	---	---	2,749	---	---	---	4,123

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
1704.	Homemaker and Long Term Personal Care Services, Escort and Transportation Services	10,417	---	---	---	---	---	---	127,771
1710.	Sheltered Workshops and Vocational Rehabilitation Facilities	11,139	---	---	4,516	8,430	---	---	6,021
1711.	Counter-Loneliness (Phone-Pal) Programs								
1718.	Goodwill Industries of America	248	496	248	248	496	248	---	496
1722.	Meals on Wheels Programs	9,000	---	---	---	72,000	---	---	18,000
	SOCIAL SERVICES - GENERAL								
1801.	Neighborhood Community Centers	---	---	---	4,392	---	---	---	6,587
1802.	Crisis Intervention - Hot Line Phone Services	---	---	---	6,065	---	---	---	---
1807.	General Outreach Activities Informing Residents of Available Resources	612	---	---	612	---	---	---	4,898

APPENDIX IIB

TABLE 2B.3

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
	COMMUNITY DEVELOPMENT								
0109.	Citizen Participation for HUD - Block Grant Program, "701" Planning Grants	12,000	---	---	7,500	---	---	---	6,000
0114.	Community Clean-Up, Beautification, Litter Removal	---	---	---	---	10,000	8,000	7,500	---
	CRIMINAL JUSTICE								
0201.	Probation and Parole Activities and Youth Offender Counseling	9,500	---	---	7,000	---	---	---	---
0206.	Clerical and Support Staff for State and Local Courts	12,000	9,000	---	7,000	---	---	---	---
0209.	Recreation Programs in Correctional Facilities	10,000	---	---	---	---	---	---	8,000
0210.	Library and Education Programs in Correctional Facilities	10,000	---	---	7,000	---	---	---	6,000
0212.	Health Services in Correctional Facilities	10,000	---	---	7,000	---	---	---	7,000
0217.	Public Defender Offices and Legal Aid Societies	10,000	---	---	7,000	---	---	---	---
0221.	Police and Sheriff Departments - Primary and Support Staff	10,000	9,000	---	7,000	---	---	8,000	---
0222.	Custodial Staff Support for Correctional Facilities	---	9,500	---	8,000	---	---	---	8,000
0223.	Property Identification Program	---	9,000	---	7,000	---	8,000	---	---

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
0224.	Crime Prevention Education Programs	10,000	---	---	7,000	---	8,000	---	---
0226.	Juvenile Correction Facilities	10,000	9,000	---	7,000	---	---	---	7,000
	CULTURAL ACTIVITIES								
0300.	Community Theatres, Dance Groups, Choirs, Museums and Neighborhood Arts Councils	---	---	---	---	7,000	---	---	6,000
	EDUCATION								
0401.	Early Detection of Reading and Learning Disabilities in Elementary Schools	9,300	---	---	7,500	---	---	---	---
0402.	Classroom and Teacher Aides	---	---	---	---	---	---	---	6,000
0403.	Work-Study Programs in Public Schools	9,300	---	---	7,000	---	---	---	6,000
0404.	Vocational Education in Public Schools	9,300	---	---	---	---	---	---	---
0406.	School Libraries	9,300	---	---	7,500	---	---	---	---
0409.	Adult Education	9,300	---	---	---	---	---	---	6,000
0410.	Bilingual Education	9,300	---	---	---	---	---	---	---
0413.	Maintenance, Repair and Rehabilitation of Public Schools	---	---	---	---	---	12,000	8,000	6,000

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
0414.	School Security Guards and Hall Monitors	---	---	---	---	8,000	---	---	6,000
0418.	Truancy Follow-Up and Child Counseling	10,000	---	---	7,500	---	---	---	---
0419.	After School Tutoring Programs	---	---	---	---	---	---	---	6,000
0421.	Increase Number of Teachers to Achieve Better Teacher-Student Ratio	9,300	---	---	---	---	---	---	---
0423.	Educational Opportunities for Ex-Offenders	9,300	---	---	---	---	---	---	---
0426.	Special Education Programs for the Handicapped	9,300	---	---	---	---	---	---	---
0427.	Nursery School and Kindergarten	9,300	---	---	---	---	---	---	---
	ENERGY CONSERVATION								
0501.	Home Related Construction Activities	---	---	---	---	11,000	---	7,000	---
0504.	Studies of Energy Waste in Public Buildings	12,000	---	---	8,000	---	---	---	---
0505.	Outreach Counseling on Energy Conservation	12,000	---	---	8,000	---	---	---	7,000
	ENVIRONMENTAL PROGRAMS								
0601.	Labor Intensive Recycling Systems	12,000	10,000	---	7,000	---	8,000	6,000	---
0609.	Mosquito Control	---	---	---	---	9,000	8,000	7,500	---

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
0610.	Rodent Control	---	---	---	7,500	---	8,000	8,000	7,500
0613.	Hazardous Materials Surveys	12,000	10,000	---	7,500	---	---	---	6,000
0615.	Animal Control (Stray Dog Pick-Up)	---	---	---	---	9,000	8,000	7,500	---
0617.	Monitor Air Quality	---	9,000	---	---	---	---	---	6,000
0619.	Monitor Water Quality, Discharge of Effluents	---	---	---	---	---	---	---	---
0620.	Survey Water Supplies	---	9,000	---	---	---	---	---	6,000
0625.	Soil Conservation Practices	---	---	---	---	10,000	---	6,000	---
0626.	Site Preparation and Seeding of Eroding Roadsides	---	---	---	---	---	---	6,000	---
0627.	Stream Channel Clearance	---	---	---	---	---	---	6,000	---
0628.	Flood Control Structure Maintenance	---	---	---	---	---	---	6,000	---
0629.	Timber Stand Improvements on Public Land	---	---	---	---	10,000	---	6,000	---
0630.	Timber Stand Improvements on Privately Owned (Non-corporately Held) Land	---	---	---	---	10,000	---	6,000	---
0631.	Citizen Participation Process in Environmental Programs	---	8,000	---	6,000	---	---	---	---
0632.	Inventory, Record Keeping of Solid Waste Open Dumping Areas	12,000	10,000	---	7,000	---	---	---	6,000

TABLE 28.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	FEDERAL GOVERNMENT								
0701.	Farmer's Home Administration	---	8,000	---	7,500	---	---	---	6,000
0702.	Bureau of Immigration and Naturalization	---	---	---	---	7,000	---	---	---
0704.	Cooperative Extension Service	---	9,000	---	7,000	---	---	---	6,000
	FIRE PROTECTION AND PREVENTION								
0801.	Fire Prevention Programs	10,000	9,000	---	7,000	---	---	---	6,000
0802.	Fire Hazard Inspections	10,000	9,000	---	7,000	---	---	---	6,000
	HEALTH CARE								
1001.	Community Health Centers	---	---	---	---	---	---	---	7,000
1004.	Preventive Health Screening Services, Follow-Up and Referrals	---	---	---	---	---	---	---	6,000
	HOUSING								
1101.	Housing Rehabilitation (Extensive)	16,000	---	---	8,000	14,000	10,000	9,500	---
1102.	Housing Rehabilitation (Moderate)	16,000	---	---	8,000	14,000	10,000	9,500	---
1103.	Housing Rehabilitation (Minor Home Repair)	16,000	---	---	8,000	14,000	10,000	9,500	---
1104.	Security Guards/Patrols for Public Housing Projects	10,000	---	---	---	---	---	---	7,000
1108.	Housing Inspections	11,000	---	---	8,000	---	---	---	7,000

TABLE 2B,3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1109.	Lead Based Paint Removal	---	---	---	7,500	---	---	8,000	7,500
1111.	Housing Abandonment Surveys	10,000	---	---	7,500	---	---	---	7,000
	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS								
1201.	Park, County Park, etc.	15,867	---	---	---	13,700	10,600	11,311	5,700
1202.	Police Station	15,867	---	---	---	13,700	10,600	11,311	5,700
1203.	Fire and/or Rescue Station(s)	15,867	---	---	---	13,700	10,600	11,311	5,700
1204.	Jail, Prison, Detention Facility	15,867	---	---	---	13,700	10,600	11,311	5,700
1205.	Municipal Office Building, Town Hall, Courthouse	15,867	---	---	---	13,700	10,600	11,311	5,700
1206.	Hospital, Clinic, Nursing Home, Health Center	15,867	---	---	---	13,700	10,600	11,311	5,700
1207.	Arena, Stadium, Bleachers, Pavilion	15,867	---	---	---	13,700	10,600	11,311	5,700
1208.	Auditorium, Theater	15,867	---	---	---	13,700	10,600	11,311	5,700
1209.	Gymnasium, Swimming Pool, Recreational Building	15,867	---	---	---	13,700	10,600	11,311	5,700
1210.	Community Center, Social Service Center	15,867	---	---	---	13,700	10,600	11,311	5,700
1211.	School, Learning or Training Facility	15,867	---	---	---	13,700	10,600	11,311	5,700
1212.	Library	15,867	---	---	---	13,700	10,600	11,311	5,700

TABLE 28.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1213.	Museum, Cultural Center, Science Center	15,867	---	---	---	13,700	10,600	11,311	5,700
1214.	Air, Water, Rail Terminal Buildings	15,867	---	---	---	13,700	10,600	11,311	5,700
1215.	Garage, Parking Structure	15,867	---	---	---	13,700	10,600	11,311	5,700
1216.	Factory, Cannery, Processing Plant	15,867	---	---	---	13,700	10,600	11,311	5,700
1217.	Shell Industrial Building, Warehouse, Market	15,867	---	---	---	13,700	10,600	11,311	5,700
1218.	Port Facility, Harbor Development	15,867	---	---	---	13,700	10,600	11,311	5,700
1219.	Electric Power Plant, Generating Facility	15,867	---	---	---	13,700	10,600	11,311	5,700
1220.	Dwelling Units, Houses, Apartments	15,867	---	---	---	13,700	10,600	11,311	5,700
1222.	Dams, Levees, Dikes, Flood Control Structures	15,867	---	---	---	13,700	10,600	11,311	5,700
1224.	Water System (Lines Plus Well, Reservoir, etc.)	15,867	---	---	---	13,700	10,600	11,311	5,700
1225.	Water Source Development (Reservoir, Well, etc.)	15,867	---	---	---	13,700	10,600	11,311	5,700
1226.	Water Treatment Facility (Potable)	15,867	---	---	---	13,700	10,600	11,311	5,700
1227.	Sewer Lines, Mains, Trunks	15,867	---	---	---	13,700	10,600	11,311	5,700
1228.	Sewer System (Lines Plus Outfall, Pumping, etc.)	15,867	---	---	---	13,700	10,600	11,311	5,700
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	15,867	---	---	---	13,700	10,600	11,311	5,700

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes- sional	Managers	Sales Workers	Clerical	Crafts- person	Opera- tives	Laborers	Service Workers
1230.	Street, Road, Highway (May Include Sidewalk)	15,867	---	---	---	13,700	10,600	11,311	5,700
1231.	Sidewalks, Curbs, Gutters	15,867	---	---	---	13,700	10,600	11,311	5,700
1232.	Combines Water/Sewage and Street/Road and Sidewalk	15,867	---	---	---	13,700	10,600	11,311	5,700
1233.	Parking Lots	15,867	---	---	---	13,700	10,600	11,311	5,700
1234.	Multiple Utility-type Project	15,867	---	---	---	13,700	10,600	11,311	5,700
1235.	Architectural Barrier Removal in Public Libraries	14,000	---	---	---	12,000	9,000	8,000	---
1236.	Architectural Barrier Removal in Other Public Non-educational Buildings	14,000	---	---	---	12,000	9,000	8,000	---
1237.	Architectural Barrier Removal in Educational Facilities	14,000	---	---	---	12,000	9,000	8,000	---
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	---	---	---	---	12,000	9,000	8,000	---
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	---	---	---	---	12,000	9,000	8,000	---

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	PARKS AND RECREATION								
1404.	Park Maintenance, Park and Water Recreation Supervisors and Aides	---	---	---	---	10,000	---	---	6,000
1406.	Reforestation of Parks and Woodlands and Other National Forest Service Programs	10,000	9,000	---	---	---	---	6,000	---
	PRIVATE (FOR PROFIT) SECTOR ORIENTED ACTIVITIES								
1504.	Job Search Project	10,000	---	---	7,000	---	8,000	---	---
	SOCIAL SERVICES FOR CHILDREN AND YOUTH								
1601.	BigBrothers/Big Sisters of America	13,100	8,500	---	8,500	---	---	---	---
1603.	Boy's/Girl's Associations and Drop In Centers	12,000	10,000	---	8,000	---	---	8,000	8,000
1604.	Day Care Services (Expansion of Existing Services)	7,000	---	---	6,000	---	---	---	6,000
1605.	Day Care Services (New Services)	9,000	---	---	6,000	---	---	---	6,000
1606.	Adoption Agencies, Foster Care Activities, Child Welfare Agencies	11,000	9,000	---	---	---	---	---	6,000
	SOCIAL SERVICES FOR THE ELDERLY AND MENTALLY OR PHYSICALLY HANDICAPPED								
1701.	Senior Citizen Community Centers	---	---	---	7,500	---	---	---	6,500

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1704.	Homemaker and Long Term Personal Care Services, Escort and Transportation Services	10,000	---	---	---	---	---	---	6,000
1710.	Sheltered Workshops and Vocational Rehabilitation Facilities	10,000	---	---	6,000	10,000	---	---	6,000
1721.	Goodwill Industries of America, Inc.	10,000	8,000	6,000	7,000	9,000	8,000	---	6,000
1722.	Meals on Wheels Programs	15,000	---	---	---	---	5,000	---	6,500
	SOCIAL SERVICES - GENERAL								
1801.	Neighborhood Community Centers	---	---	---	7,500	---	---	---	6,500
1802.	Crisis Intervention - Hot Line Phone Services	---	---	---	8,000	---	---	---	---
1807.	General Outreach Activities Informing Residents of Available Resources	12,000	---	---	7,500	---	---	---	6,000

APPENDIX IVA

STUDIES USED TO DISTRIBUTE MATERIAL COSTS

Study	Type of Activity	Number of Job-Creation Activities Distributed
National BLS Input-Output Study		41
	Educational Services	13
	Office Supplies	28
The Stern Study		10
	Police and Prisons	3
	Social and Special Welfare Services	4
	Hospital and Health Services	3
The Vernez Study		38
	Building Construction	33
	Heavy Construction	5
Judgment		26

Source: Jones (1978).

APPENDIX IVB

SUBSTITUTION RATE BY ACTIVITY

Activity #	Rate of Substitution
0109	.25
0114	.75
0201	.75
0206	.50
0209	.25
0210	.25
0212	.25
0217	.50
0221	.75
0222	.75
0223	.50
0224	.50
0226	.75
0300	.50
0401	.25
0402	.50
0403	.25
0404	.75
0406	.50
0409	.25
0410	.25
0413	.75
0414	.50
0418	.25
0419	.25
0421	.50
0423	.25
0426	.25
0427	.50
0501	.25
0502	.25
0503	.25
0504	.25
0505	.25
0601	.25
0609	.75
0610	.75
0613	.25
0615	.75
0617	.25
0620	.25

APPENDIX IVB

SUBSTITUTION RATE BY ACTIVITY
(continued)

Activity #	Rate of Substitution
0625	.75
0626	.75
0628	.75
0629	.50
0630	.50
0631	.25
0632	.25
0701	.50
0702	.75
0704	.25
0801	.75
0802	.75
1001	.75
1004	.25
1101	.25
1102	.25
1103	.25
1104	.25
1108	.25
1109	.25
1111	.25
1201	.75
1202	.75
1203	.75
1204	.50
1205	.75
1260	.75
1207	.25
1208	.25
1209	.50
1210	.50
1211	.25
1212	.25
1213	.25
1214	.50
1215	.25
1216	.50
1217	.75
1218	.50
1219	.50
1220	.50

APPENDIX IVB

SUBSTITUTION RATE BY ACTIVITY
(continued)

Activity #	Rate of Substitution
1222	.50
1224	.75
1225	.75
1226	.75
1227	.75
1228	.75
1229	.75
1230	.75
1231	.75
1232	.50
1233	.50
1234	.25
1235	.50
1236	.25
1237	.25
1238	.50
1239	.50
1404	.75
1406	.75
1504	.25
1601	.50
1603	.25
1604	.50
1605	.25
1701	.50
1704	.50
1710	.50
1721	.25
1722	.50
1801	.75
1802	.25
1807	.75

See supra, Appendix IIA, for a detailed description of the activities which correspond to the above numbers.

APPENDIX IVC

ACTIVITIES BY CLUSTERS

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
	Cluster 1: Nonlabor Intensive and High-Skill Level Requirements	
0404.	Staff Support to Expand Vocational Education in Public Schools	Educational
0406.	Staff Support for School Library Operations during School Year	Educational
1710.	Staff Support for Sheltered Workshops and Vocational Rehabilitation	Office Supplies
	Cluster 1: Labor Intensive and High-Skill Level Requirements	
0201.	Staff Support for Parole and Probation Activities, Satellite (Community) Probation Offices, and Youth Offender Counseling	Office Supplies
0206.	Staff Support to Improve the Court Process Providing Clerical Help, Delivering of Subpoenae, Notification of Witnesses and Attorneys of Changes in Time, Date, or Place of Court Proceedings	Office Supplies
0210.	Staff Support for Library and Education Programs in Correctional Facilities	Educational
0217.	Staff Support for Public Defender Offices and Legal Aid Societies	Office Supplies
0221.	Staff Support for Law Enforcement Agencies, Police and Sheriff Departments Including Dispatch Operators, Commercial Security Aides, Field Aides, etc.	Security
0226.	Staff Support for Juvenile Correctional Facilities	
0401.	Staff Support for Early Detection of Reading and Learning Disabilities in Elementary Schools	Educational
0402.	Classroom and Teacher's Aides Including Bilingual Aides, Music Aides, Aides for Educationally Handicapped Classes, etc.	Educational

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
0403.	Staff Support to Expand Work-Study Activities in Public Schools	Educational
0409.	Staff Support to Expand Adult Educational Services and Training for the G.E.D. (High School Equivalency) Examinationa and Right to Read Program	Educational
0410.	Staff Support to Expand Bilingual Educational Services in Regular Public School Curriculae, Vocational Education Programs, and Adult Education Classes	Educational
0418.	Staff Support for Truancy Follow-up and Child Counseling Programs	Educational
0421.	Expand Number of Teachers to Achieve Better Teacher-Student Ratio	Educational
0423.	Staff Support for Educational Opportunities for Ex-Offenders	Educational
0426.	Increase Number of Teachers in Special Education Classes for the Handicapped	Educational
0427.	Expand Number of Teachers for Kindergarten and Nursery School	Educational
0631.	Staff Support for Citizen Participation Process for Environmental Programs Including the Resource Conservation and Recovery Act of 1976	Office Supplies
0701.	Staff Support for Expansion of Farmer's Home Administration to Improve Loan Processing	Office Supplies
0702.	Staff Support for the Bureau of Immigration and Naturalization Service to Process the Backlog of Adjudications and Implement the Amensty Program	Office Supplies
1603.	Staff Support for Boy's/Girl's Associations and Drop-in Centers	Welfare Services
1721.	Staff Support for Goodwill Industries of America, Inc.	Office Supplies
1802.	Staff Support for Crisis Intervention - Hot Line Phone Services Information and Referral Services	Office Supplies

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
	Cluster 1: Labor Intensive and Low-Skill Level Requirements	
0109.	Staff Support for Citizen Participation Processes Required under the Housing and Community Development Block Grant Program, Title XX - Social Services, etc.	Office Supplies
0209.	Staff Support for Recreation Programs in Correctional Facilities	Office Supplies
0223.	Staff Support for Property Identification Programs	Office Supplies
0224.	Staff Support for Crime Prevention Education Programs and Counseling for Businesses and Local Citizens	Office Supplies
0300.	Staff Support for Community Theatres and Theatrical Education; Children's Theatres; Community Dance Groups and Classes; Community Choir, Jazz, or Opera Groups, Lessons; Community Symphonies and Musical Training; and Museums and Neighborhood Arts Council	Office Supplies
0419.	Staff Support for After-School Tutoring Programs Using Peer Tutorers, Teacher's Aides, and the Elderly, etc.	Educational
0617.	Staff Support to Monitor Air Quality	Office Supplies
0620.	Staff Support to Survey Water Supplies	Office Supplies
0632.	Staff Support for Inventory of Solid Waste Open Dumping Areas, Record-keeping and Clerical Support for the Resource Conservation and Recovery Act of 1976	Office Supplies
0704.	Cooperative Extension Service (U.S.D.A.)	Office Supplies
0801.	Staff Support for Fire Prevention Programs such as Speeches, Displays, and Other Presentations Offered in Public Schools, to Community Groups, Employees at Their Place of Work, Home	Office Supplies
0802.	Fire Hazard Inspections in Public Buildings, Housing Units, and Businesses	Office Supplies
1001.	Staff Support for Community Health Centers and Related Services Including Community Health Workers, Environmental Health Workers, and Health Counselors	Health and Hospitals

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
1004.	Preventive Health Screening Services, Follow-up and Referrals	Health and Hospitals
1104.	Security Guards/Patrol for Public Housing Projects	
1108.	Conduct General Housing Inspections for Lead Based Paint Code Enforcement, Eligibility for Section 8 and Other Federally Supported Housing Programs	Office Supplies
1111.	Conduct Housing Abandonment Surveys	Office Supplies
1404.	Park Maintenance and Landscaping, Park Supervisors, Water Recreation Supervisors and Aides	Office Supplies
1504.	Job Search Project: Staff Support for a Project Designed to Bring Small Groups of Previously Screened Unemployed Workers to Companies and Factories Who Are Advertising for Employees. Private Companies Would Make Available a Personnel Officer to Describe the Company, Give a Tour, and Receive Job Applications. Bilingual Aides Provided by CETA Where Necessary.	Ofice Supplies
1601.	Staff Support for Big Brother/Big Sister Programs	Welfare Services
1604.	Staff Support for Day Care Services Including Day Care Centers, Nursery Schools, In-Home Day Care Services, etc.	Office Supplies
1605.	Staff Support for After-School and 24-Hour Day Care Services	Welfare Services
1701.	Staff Support for Senior Citizen Community Centers	Office Supplies
1704.	Homemaker and Long-Term Care Services for the Elderly, and Mentally or Physically Disabled; Including Escort Servcies to and from Banks, Shopping Centers, in High Crime Areas, at Night, etc., for the Elderly, Deaf, Blind, Mentally or Otherwise Physically Handicapped and Transportation to and from Medical Facilities, Shopping, Recreation Activities, Social Visits, etc.	Health and Hospitals
1801.	Staff Support for Neighborhood Community Centers	Office Supplies
1807.	Staff Support for Outreach Activities Informing Residents of the Available Resources in Their Community	Office Supplies

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
	Cluster 2: Nonlabor Intensive/High-Skill Level Requirements	
1201.	Park, County Park, etc.	Office Buildings
1202.	Police Station	Office Buildings
1203.	Fire and/or Rescue Station(s)	Office Buildings
1204.	Jail, Prison, Detention Facility	Office Buildings
1205.	Municipal Office Building, Town Hall, Courthouse	Office Buildings
1206.	Hospital, Clinic, Nursing Home. Health Center	Office Buildings
1207.	Arena, Stadium, Bleachers, Pavilion	Office Buildings
1208.	Auditorium Theater	Office Buildings
1209.	Gymnasium, Swimming Pool, Recreational Building	Office Buildings
1210.	Community Center, Social Service Center	Office Buildings
1211.	School, Learning or Training Facility	Office Buildings
1212.	Library	Office Buildings
1213.	Museum, Cultural Center, Science Center	Office Buildings
1214.	Air, Water, Rail Terminal Buildings	Office Buildings
1215.	Garage, Parking Structure	Office Buildings
1216.	Factory, Cannery, Processing Plant	Office Buildings
1217.	Shell Industrial Building, Warehouse, Market	Office Buildings
1222.	Dams, Levees, Dikes, Flood Control Structures	Large Earthfill Dams
1224.	Water System (Lines Plus Well, Reservoir, etc.)	Sewer Plants
1225.	Water Source Development (Reservoir, Well, etc.)	Sewer Plants
1226.	Water Treatment Facility (Potable)	Sewer Plants
1228.	Sewer System (Lines Plus Outfall, Pumping, etc.)	Sewer Plants
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	Sewer Plants
1234.	Multiple Utility-type Project	Multiple Purpose Project

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
	Cluster 2: Nonlabor Intensive and Low-Skill Level Requirements	
0625.	Layout, Survey, Construction of Soil Conservation Practices	Highways
0626.	Site Preparation, Seeding of Eroding Roadsides	Highways
0627.	Stream Channel Clearance	Dredging
0628.	Flood Control Structure Maintenance	Flood Protection
0629.	Timber Stand Improvements on Public Land	Highways
0630.	Timber Stand Improvements on Privately Owned (Non-Corporately Held) Land	Highways
1218.	Port Facility, Harbor Development	Office Buildings
1219.	Electric Power Plant, Generating Facility	Powerhouse Construction
1220.	Dwelling Units, Houses, Apartments	Public Housing
1227.	Sewer Lines, Mains, Trunks	Sewer Lines
1230.	Street, Road, Highway (May Include Sidewalk)	Highways
1231.	Sidewalks, Curbs, Gutters	Highways
1232.	Combines Water/Sewage and Street/Road and Sidewalk	Highways
1233.	Parking Lots	Highways
	Cluster 3: Labor Intensive and Low-Skill Level Requirements	
0114.	Community Clean-up, Beautification, and Other Litter Removal Activities	Maintenance & Repair Construction
0212.	Staff Support for Health Services in Correctional Institutions	Health Services
0222.	Custodial Staff Support for Correctional Facilities	Apparel
0505.	Staff Support for Outreach (Door to Door) Counseling in Businesses, Homes, Schools, etc., on Energy Conservation	Office Supplies

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
0609.	Mosquito Control - Inspection and Spraying of Roadsides and Breeding Grounds, House and Public Buildings	Motor Vehicles
0610.	Rodent Control - Inspection and Treatment of Roadsides and Breeding Grounds, Houses, and Public Buildings	Motor Vehicles
0613.	Hazardous Materials Surveys	Motor Vehicles
0615.	Animal Control (i.e., Stray Dog Pick-up, etc.)	Motor Vehicles
1109.	Lead Based Paint Removal from Public Housing Units, Private Houses, and Public Buildings	Maintenance & Repair Construction
1406.	Reforestation of Parks and Woodlands, Other National Forest Services	Agricultural, Forestry, & Fishery

Cluster 3: Nonlabor Intensive and Low-Skill Level Requirements

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
0413.	Maintenance, Repair, and Rehabilitation of Public School Buildings and Grounds	Maintenance & Repair Construction
0501.	Home Related Construction Activities (i.e., Insulation, Winterization, and Weatherization)	Maintenance & Repair Construction
0502.	Solar Energy Research, Development, and Construction Activities	Maintenance & Repair Construction
0503.	Staff Support for Home Heating Fuel Cooperatives	Maintenance & Repair Construction
0601.	Labor Intensive Recycling Systems for Glass, Paper, Aluminum, and Other Materials	Materials Handling Machinery & Equipment
1235.	Architectural Barrier Removal in Public Libraries	Maintenance & Repair Construction
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	Maintenance & Repair Construction
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	Maintenance & Repair Construction
1722.	Meals on Wheels Programs	Food & Kindred Products

ACTIVITY CODE		TYPE OF SERVICES DELIVERED
	Cluster 3: Labor Intensive and High-Skill Level Requirements	
0414.	School Security Guards and Hall Monitors	Apparel
0504.	Commission of Studies of Energy Waste in Public Buildings with Additional Follow-up for Continuous Monitoring of Energy Use Practices in Public Buildings	Research
	Cluster 3: Nonlabor Intensive and High-Skill Level Requirements	
1101.	Housing Rehabilitation (Extensive)	Maintenance & Repair Construction
1102.	Housing Rehabilitation (Moderate)	Maintenance & Repair Construction
1103.	Housing Rehabilitation (Minor Home Repair)	Maintenance & Repair Construction
1236.	Architectural Barrier Removal in Other Public Non-Educational Buildings	Maintenance & Repair Construction
1237.	Architectural Barrier Removal in Educational Facilities	Maintenance & Repair Construction

APPENDIX IVD

ASSUMED RATE OF SUBSTITUTION AND ONSITE AND OFFSITE EMPLOYMENT GENERATED BY 114 JOB-CREATION PROJECTS BY TYPE OF OFFSITE EMPLOYMENT AND CLUSTER FOR ALTERNATIVE ASSUMPTIONS REGARDING SUBSTITUTION (in thousands)

		Optimistic Assumption					Pessimistic Assumption				
		Type of Employment					Type of Employment				
			Offsite					Offsite			
Type of Cluster:	Assumed Rate of Substitution	Onsite	Direct and Indirect	Induced	Total	Total Onsite and Offsite	Onsite	Direct and Indirect	Induced	Total	Total Onsite and Offsite
All Clusters	.53	2,741	2,043	2,589	4,631	7,372	1,288	1,960	1,217	2,177	3,465
Labor Intensive	.54	1,856	102	1,239	1,344	3,200	854	47	570	618	1,472
Low-Skill	.57	725	53	740	794	1,519	313	23	299	322	635
C1LL	.61	584	43	692	735	1,319	228	17	270	287	515
C3LL	.40	141	10	48	59	200	85	6	29	35	120
High-Skill	.51	1,131	49	499	549	1,680	554	24	244	269	821
C1LH	.51	1,044	42	442	485	1,529	512	21	217	238	749
C3LH	.52	87	7	57	64	151	42	3	27	31	72
Nonlabor Intensive	.52	885	1,941	1,349	3,290	4,175	425	932	648	1,579	2,052
Low-Skill	.45	372	325	284	608	980	205	179	156	334	539
C2CL	.37	128	226	145	371	499	81	142	91	234	314
C3CL	.49	244	99	139	237	481	124	50	71	121	245
High-Skill	.57	513	1,616	1,065	2,682	3,195	221	695	458	1,153	1,417
C1CH	.45	100	23	77	100	200	55	13	42	55	110
C2CH	.51	270	1,500	862	2,362	2,632	132	735	422	1,157	1,290
C3CH	.75	143	93	126	220	363	36	23	32	55	91

APPENDIX IVE

ONSITE AND OFFISTE EMPLOYMENT BY OCCUPATION AND PROJECT CLUSTER

TABLE 4E.1

ONSITE EMPLOYMENT BY OCCUPATION AND CLUSTER

Cluster / Occupation Group	C1CH	C1LL	C1LH	C2CH	C2CL	C3CL	C3LH	C3CH	C3LL	Total	
	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.0	%	#
Professional, Technical and Kindred Workers	56.7	4.4	65.6	6.0	3.6	5.5	1.3	2.0	2.4	30.5	835,583
Managers, Officials, and Proprietors	0	1.9	1.9	0	0	4.7	5.2	0	3.9	1.9	51,522
Sales Workers	0	0	0.1	0	0	0	0	0	0	0	548
Clerical and Kindred Workers	28.8	2.9	9.5	0	0	10.5	0	0.3	3.9	6.4	175,941
Craftsmen, Foremen, and Kindred Workers	8.5	4.4	0	49.4	20.3	7.1	82.8	61.2	2.5	13.4	366,407
Operatives and Kindred Workers	0	1.7	1.4	11.7	11.3	12.6	0	1.7	6.9	4.1	112,361
Laborers	0	11.6	0.2	32.2	64.6	31.8	0	34.8	67.5	16.2	443,963
Service Workers	6.4	73.1	21.3	0.6	0.2	27.9	10.8	0	12.8	27.5	754,190
Farmers	0	0	0	0	0	0	0	0	0	0	0
Total	3.6 99,651	21.3 584,300	38.1 1,044,852	9.8 269,778	4.7 127,655	8.9 243,882	3.2 87,121	5.2 142,729	5.1 140,547	100.0	2,740,515

TABLE 4E.2

ALL OFFSITE EMPLOYMENT BY OCCUPATION AND CLUSTER

Cluster / Occupation Group	C1CH	C1LL	C1LH	C2CH	C2CL	C3CL	C3LH	C3CH	C3LL	Total	
	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.0	%	#
Professional, Technical and Kindred Workers	10.8	11.0	12.1	9.6	8.5	12.1	10.3	11.6	11.1	10.3	474,955
Managers, Officials, and Proprietors	12.6	12.4	12.1	12.4	13.9	11.6	12.1	11.6	12.3	12.4	574,980
Sales Workers	9.6	9.1	8.9	9.8	12.0	7.8	9.0	6.3	9.4	9.5	438,582
Clerical and Kindred Workers	20.0	19.2	19.1	17.4	17.9	10.9	18.4	15.6	18.2	17.9	827,658
Craftsmen, Foremen, and Kindred Workers	11.3	10.1	10.0	12.7	11.1	20.4	9.8	19.4	10.6	12.2	566,903
Operatives and Kindred Workers	19.1	20.1	19.5	23.1	20.1	10.6	22.9	18.2	20.5	21.4	992,599
Laborers	3.7	3.5	3.4	4.3	4.2	5.0	3.4	6.2	3.7	4.2	193,470
Service Workers	11.5	12.3	12.7	9.9	11.3	10.1	11.9	9.9	12.0	10.8	499,257
Farmers	1.8	2.3	2.2	0.9	0.9	1.9	2.3	1.3	2.1	1.4	62,933
Total	2.1 99,089	15.9 735,574	10.5 484,842	51.0 2,361,528	8.0 370,886	5.1 238,259	1.4 63,875	4.7 219,534	1.3 58,743	100.0	4,631,329

TABLE 4E.3

DIRECT AND INDIRECT EMPLOYMENT BY OCCUPATION AND CLUSTER

Cluster / Occupation Group	C1CH	C1LL	C1LH	C2CH	C2CL	C3CL	C3LH	C3CH	C3LL	Total	
	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.0	%	#
Professional, Technical, and Kindred Workers	9.1	10.1	15.9	7.1	5.1	7.0	3.6	7.6	8.9	7.1	145,463
Managers, Officials, and Proprietors	13.5	13.1	11.8	12.9	15.3	11.8	10.3	11.7	13.4	13.0	265,941
Sales Workers	10.0	9.4	9.4	10.8	14.4	7.2	8.9	4.2	11.4	10.6	216,839
Clerical and Kindred Workers	23.3	22.2	19.8	16.4	17.3	13.2	13.0	11.1	16.8	16.4	334,824
Craftsmen, Foremen, and Kindred Workers	16.3	15.0	13.3	14.6	12.2	23.9	9.9	33.6	13.6	15.7	319,803
Operatives and Kindred Workers	15.4	16.3	14.7	25.5	20.8	21.3	43.9	17.9	22.2	23.9	488,866
Laborers	4.5	4.5	4.0	5.0	4.8	7.8	3.4	10.4	4.5	5.3	108,228
Service Workers	7.9	8.5	10.4	7.7	9.8	5.4	6.0	3.4	8.9	7.7	156,704
Farmers	0.2	0.9	0.6	0.2	0.1	2.4	1.1	0.2	0.3	0.2	6,076
Total	1.1 22,554	2.1 43.100	2.1 42,351	73.4 1,499,603	11.1 225,695	4.8 98,688	0.4 7,082	4.6 93,322	0.5 10,367	100.0	2,042,744

TABLE 4E.4

INDUCED EMPLOYMENT BY OCCUPATION AND CLUSTER

Cluster	C1CM	C1LL	C1LM	C2CM	C2CL	C3CL	C3LM	C3CM	C3LL	Total	
Occupation Group	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.0	%	#
Professional, Technical, and Kindred Workers	11.3	11.1	11.7	13.9	13.7	15.8	11.2	14.6	11.6	12.7	329,492
Managers, Officials, and Proprietors	12.3	12.3	12.2	11.7	11.7	11.5	12.3	11.4	12.1	11.9	309,039
Sales Workers	9.0	9.0	8.8	8.2	8.3	8.2	9.0	7.8	8.9	8.6	221,743
Clerical and Kindred Workers	19.1	19.0	19.1	19.0	18.9	19.6	19.1	19.0	18.6	19.0	492,834
Craftsmen, Foremen, and Kindred Workers	9.8	9.8	9.6	9.4	9.4	9.3	9.8	8.9	10.0	9.6	247,100
Operatives and Kindred Workers	20.2	20.3	20.0	18.9	18.0	17.8	20.3	18.4	20.1	19.5	503,733
Laborers	3.4	3.4	3.4	3.2	3.2	2.9	3.4	3.4	3.5	3.3	85,242
Service Workers	12.6	12.5	13.0	13.7	13.7	13.4	12.6	14.7	12.7	13.2	342,553
Farmers	2.3	2.4	2.3	2.1	2.1	1.5	2.4	2.1	2.5	2.2	56,857
Total	2.9 76,536	26.8 692,475	17.1 442,492	33.3 861,925	5.6 145,191	5.4 138,590	2.2 56,793	4.9 126,212	1.9 48,376	100.0	2,588,593

APPENDIX IVF

DISTRIBUTION OF EDUCATION BY OCCUPATION

	Education (years)					
Occupation Group	8 yrs or less	9-11 yrs	12 yrs	13-15 yrs	16 yrs or more	Total
Professional, Technical, and Kindred Workers	1.8	4.5	17.9	19.7	56.0	100.0
Managers, Officials, and Proprietors	8.9	13.9	34.1	19.9	23.2	100.0
Sales Workers	9.4	21.7	38.2	19.0	11.7	100.0
Clerical and Kindred Workers	4.7	16.1	54.4	19.7	5.2	100.0
Craftsmen, Foremen, and Kindred Workers	24.0	25.8	39.3	8.8	2.1	100.0
Operative and Kindred Workers	20.5	25.2	45.8	7.4	1.2	100.0
Laborers	34.5	31.7	25.8	6.9	1.1	100.0
Service Workers	26.5	30.6	32.2	9.0	1.7	100.0
Farmers	39.8	22.1	28.1	7.0	3.0	100.0
Total	15.2 703,601	20.6 953,418	39.0 1,804,818	13.8 640,063	11.4 529,429	100.0

APPENDIX IVG

ONSITE AND OFFISTE EMPLOYMENT BY EDUCATION AND PROJECT CLUSTER

TABLE 4G.1

ALL ONSITE EMPLOYMENT BY EDUCATION AND CLUSTER

Cluster / Years of School Completed	C1CH	C1LL	C1LH	C2CH	C2CL	C3CL	C3LH	C3CH	C3LL	Total	
										%	#
8 or less	6.1	25.2	7.6	25.6	29.6	23.7	23.2	27.1	29.3	18.2	498,773
9-11	11.3	28.5	11.7	26.4	28.8	26.2	25.4	27.4	29.0	20.9	572,767
12	31.2	32.1	25.1	34.3	30.5	34.0	38.0	34.3	29.6	29.9	819,414
13-15	18.2	9.7	17.2	8.7	7.8	10.3	9.5	8.4	8.6	12.6	345,305
16 or more	33.5	4.5	38.1	4.9	3.3	5.8	3.9	2.8	3.5	18.4	504,255
Total	3.6 99,651	21.3 584,300	38.1 1,044,852	9.8 269,778	4.7 127,655	8.9 243,882	3.2 87,121	5.2 142,729	5.1 140,547	100.0	2,740,515

TABLE 4G.2

ALL OFFSITE EMPLOYMENT BY EDUCATION AND CLUSTER

Years of School Completed \ Cluster	C1CM	C1LL	C1LM	C2CM	C2CL	C3CL	C3LM	C3CM	C3LL	Total %	Total #
8 or less	14.83	14.99	14.84	15.26	14.95	14.72	15.26	16.23	15.07	15.1	697,941
9-11	20.36	20.34	20.18	20.77	20.72	18.63	20.59	20.89	20.39	20.6	954,980
12	39.13	38.80	38.53	39.28	39.13	32.98	39.11	38.04	38.64	39.0	1,805,755
13-15	14.22	14.19	14.10	13.73	14.08	12.29	13.80	13.33	13.94	13.8	641,439
16 or more	11.89	11.89	12.38	11.04	11.09	11.79	11.37	11.64	11.89	11.5	531,213
Total	2.1 99,089	15.9 735,374	10.5 484,842	5.0 2,361,528	8.0 320,886	5.1 238,259	1.4 63,874	4.7 219,534	1.3 58,747	100.0	4,631,329

TABLE 4G.3

DIRECT AND INDIRECT EMPLOYMENT BY EDUCATION AND CLUSTER

Cluster Years of School Completed	C1CH	C1LL	C1LH	C2CH	C2CL	C3CL	C3LH	C3CH	C3LL	Total	
										%	#
8 or less	14.20	14.38	13.73	15.64	15.11	17.65	17.01	18.40	15.06	15.7	320,071
9-11	20.18	20.09	19.30	21.27	21.20	21.83	22.39	22.23	20.76	21.2	433,062
12	39.95	39.45	37.74	39.96	39.79	38.78	41.74	34.24	39.28	39.7	810,969
13-15	14.58	14.42	14.68	13.34	14.03	12.57	11.99	12.13	13.87	13.5	275,770
16 or more	11.33	11.68	14.47	9.89	9.72	9.19	7.03	9.14	11.06	9.9	202,232
Total	1.1 22,554	2.1 43,100	2.1 42,351	73.4 1,499,603	11.1 225,695	4.8 98,668	0.4 7,082	4.6 93,322	0.5 10,367	100.0	2,042,744

TABLE 4G.4

INDUCED EMPLOYMENT BY EDUCATION AND CLUSTER

Cluster / Years of School Completed	C1CH	C1LL	C1LH	C2CH	C2CL	C3CL	C3LH	C3CH	3CLL	Total	
										%	#
8 or less	16.15	14.99	14.96	14.66	14.47	14.03	15.02	14.72	15.09	14.8	383,112
9-11	20.31	20.30	20.29	19.95	19.72	19.48	20.35	19.97	20.32	20.1	520,566
12	38.73	38.68	38.65	37.97	37.66	37.84	38.79	37.94	38.55	38.4	993,502
13-15	14.03	13.98	14.06	14.19	14.09	14.48	14.03	14.22	13.98	14.1	364,992
16 or more	12.00	11.88	12.17	13.20	13.08	14.21	11.94	13.48	12.09	12.6.	326,939
Total	1.1 76,536	2.1 692,475	2.1 442,492	73.4 861,925	11.1 145,191	4.8 138,590	0.4 56,793	4.6 126,212	0.5 48,376	100.0	2,588,593

APPENDIX VIA

DEMAND FOR LABOR BY PROJECT CLUSTER AND SUPPLY OF LABOR BY TARGET GROUP AND TYPE OF PROGRAM, EACH CLASSIFIED BY OCCUPATION

TABLE 6A.1

DEMAND FOR LABOR CREATED BY PUBLIC JOB-CREATION PROJECTS BY OCCUPATION GROUP AND TYPE OF CLUSTER, ALTERNATIVE ASSUMPTIONS ABOUT IMPACT OF DISPLACEMENT

Number of Jobs (in Thousands)

Type of Cluster / Occupation Group	All Clusters		Labor-Intensive		Low-Skill		Low-Skill, Labor-Intensive,	
	Optimistic Assumption	Pessimistic Assumption	Optimistic Assumption	Pessimistic Assumption	Optimistic Assumption	Pessimistic Assumption	Optimistic Assumption	Pessimistic Assumption
Professional & Managerial	1,939	939	1,075	495	401	191	232	100
Clerical and Sales	1,444	693	501	230	427	204	251	108
Crafts	933	447	236	109	243	116	110	47
Operatives	1,105	530	320	147	346	165	180	77
Laborers	637	306	211	97	378	180	190	82
Service Workers	1,253	601	827	380	677	323	543	233
Farm Workers	63	30	31	14	26	12	18	8
Total	7,379	3,536	3,201	1,472	2,498	1,192	1,524	653

Source: Jones

TABLE 6A.2

SUPPLY OF LABOR AVAILABLE FROM SPECIFIED TARGET GROUPS BY OCCUPATION GROUP, TARGET GROUP, AND TYPE OF PUBLIC JOB-CREATION PROGRAM

Number of Jobs (in Thousands)

Target Group / Occupation Group	Structural Program					Structural and Countercyclical Program				
	Low-skill unemployed		All unemployed		Total, unemployed and underemployed	Low-skill unemployed		All unemployed		Total, unemployed and underemployed
	Long-Term	All	Long-Term	All		Long-Term	All	Long-Term	All	
Professional & Managerial	16	27	146	271	462	32	47	332	534	787
Clerical and Sales	50	103	274	546	897	128	181	573	896	1,323
Crafts	65	138	147	342	616	197	288	459	715	1,065
Operatives	155	290	293	564	1,037	428	583	907	1,140	1,673
Laborers	73	148	128	279	470	161	234	312	450	782
Service Workers	122	230	229	428	785	209	329	456	741	1,250
Farm Workers	17	37	23	53	160	36	62	56	103	219
Inexperienced	-	-	-	-	73	-		-	-	136
Total	498	973	1,140	2,483	4,500	1,191	1,724	3,095	4,579	7,135

Source: Thorpe

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Where to Get More Information

For more information on this and other programs of research and development funded by the Employment and Training Administration, contact the Employment and Training Administration, U.S. Department of Labor, Washington, D.C. 20213, or any of the Regional Administrators for Employment and Training whose addresses are listed below.

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